Republic of Vanuatu

National Table of Frequency Allocations

February 2019

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu

Preface

The radio frequency spectrum and the geo-stationary satellite orbit are limited natural resources, susceptible to harmful interference and are international in character since radio waves cannot be confined to national boundaries. Utilisation of these resources follows the laws of physics and is governed by international treaties, notably, the Constitution and convention and the Radio Regulations of the International Telecommunication Union (ITU).

Unlike other natural resources, the radio spectrum bands when used are not consumed but are often denied for a time to other users in the same area. There is therefore a requirement for them to be shared amongst various services, applications, technologies and users, avoiding exclusive access wherever possible. It is essential that this scarce resource should be used efficiently and economically so that equitable access is available to all users in an interference-free radio environment.

In this National Table of Frequency Allocations (NFTA) no ownership of any radio frequency band is conferred on any entity. The NTFA indicates how the spectrum is notionally divided into bands that can be used by defined service types which can in turn be used for certain applications. The NTFA serves to guide the regulator and the user community about how radio frequencies will be assigned and licensed in this country.

Spectrum management involves the application of both administrative and technical procedures to ensure the efficient operation of radiocommunication services. Effective spectrum management, therefore, integrates procedures and science in the process of assigning and licensing frequency use in a way that is timely and responsive to industry needs. This must be done without compromising national interests, and so that the potential for harmful interference is minimised.

National spectrum planning on this scale does not relieve user organisations from carefully planning the frequency usage of their own networks and managing mutual interference. Rather, it assists them to do it on a sound technical and legal foundation.

This NTFA of Vanuatu will continue to evolve in line with the provisions of the Radio Regulations of the ITU for the Asia/Pacific Region. These international regulations will take account of global technical and market developments. The Telecom Regulator of Vanuatu will from time to time supplement this with national footnote provisions that relate to the particular requirements of this country. Brought together in this document, this information will form the legal foundation for the use of the radio frequency spectrum within Vanuatu.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Table of Contents

1. INTRODUCTION

1. The Vanuatu National Table of Frequency Allocations (NTFA) 2018 is an update on the NTFA 2012 taking consideration of the outcomes of the WORLD Radio Conference (WRC) 2015 and becomes effective upon gazettal by the Government of Vanuatu.

2. This document forms the basis for development, manufacturing and spectrum utilisation activities in Vanuatu. The NTFA has been made in line with the Radio Regulations of the International Telecommunication Union (ITU) and in consultation with the existing users in the country and also to cater for newly emerging technologies as well as to ensure equitable and optimum utilization of the scarce limited natural resource of radio frequency spectrum.

3. This Plan is based on the Region 3 column of the International Table of Frequency Allocations contained in ITU Radio Regulations Volume 1 (Articles) edition of 2016. In the ITU definitions, Vanuatu is part of Region 3 (Asia-Pacific). In the rest of this Plan, these ITU regulations are referred to as the *Regulations* or the *Radio Regulations*. In the references cited in this NTFA, the letters RR also refer to these Radio Regulations.

4. The ITU has specific definitions for terms and services used in the Radio Regulations. These may be found in Article 1 of the Regulations. In most instances the corresponding definitions contained in this Plan reflect the intent of the ITU definitions, although in some cases they have been restructured to align with the requirements of Vanuatu.

5. The following definitions, in accordance with the Radio Regulations, are most relevant in this context: Additional definitions may be found in Annex B of this document.

   (i) ***Allocation*** (of a frequency band)*:* Entry in the Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more terrestrial or space *radiocommunication services* or the *radio astronomy service* under specified conditions. This term shall also be applied to the frequency band concerned. (RR-S1.16)

   (ii) **Allotment** (of a radio frequency or radio frequency channel): Entry of a designated frequency channel in an agreed plan, adopted by a competent conference, for use by one or more administrations for a terrestrial or space radiocommunication service in one or more identified countries or geographical areas and under specified conditions *(*RR-S1.17).

   (iii) ***Assignment*** (of a radio frequency or radio frequency channel)*:* Authorisation given by an administration for a radio *station* to use a radio frequency or radio frequency channel under specified conditions (RR-S1.18).

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

(iv) ***ITU Region 3:*** Region 3 includes the area limited on the east by line C and on the west by line A, except any of the territory of Armenia, Azerbaijan, Russian Federation, Georgia, Kazakstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Turkey and Ukraine and the area to the north of Russian Federation. It also includes that part of the territory of the Islamic Republic of Iran lying outside of those limits. (RR-S5.5)

6. In order to achieve this ITU-R, the Radiocommunication Sector of ITU, has divided the world into three Regions as shown on the in Figure 2,

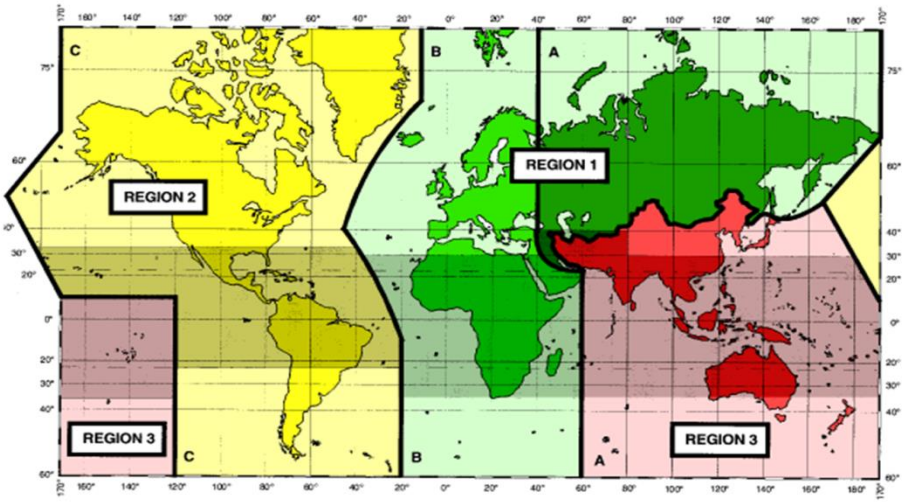


Figure 1: ITU - R World Regions for Frequency Allocation

7. A full description of where the lines A, B, and C are to be drawn on a map may be found in Nos. 5.6 to 5.9 of the ITU Radio Regulations.

8. Radio Frequency Channelling Plans are to be followed as per ITU-R Recommendations unless otherwise specified.

9. Spectrum efficient technologies and systems should be deployed for exploitation of radio frequency spectrum.

10. All necessary technical, operational, regulatory and administrative measures shall be taken so as to avoid harmful interference

11. Certain Frequency bands will be designated as being reserved for future use by new services. Suitable time frames be also kept in view in this context

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

2. HOW TO READ THE FREQUENCY ALLOCATION TABLE

1. Primary Services have names printed in “capitals” (example: FIXED);

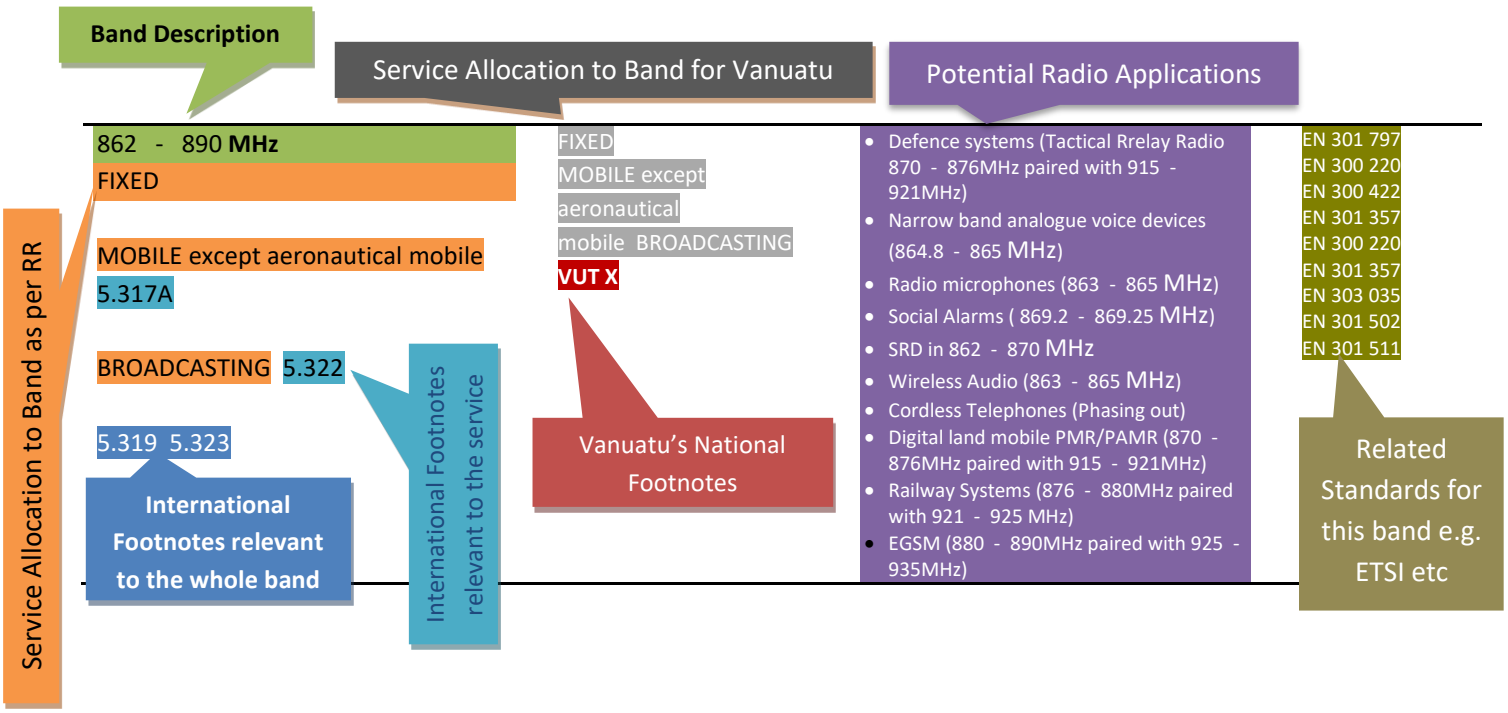
2. Secondary Services have names printed in “normal characters” (example: Mobile)

3. Stations of a secondary service:

    a. shall not cause harmful interference to stations of primary services to which frequencies are already assigned or to which frequencies may be assigned at a later date(RR-S5.29).
    b. cannot claim protection from harmful interference from stations of a primary service to which frequencies are already assigned or may be assigned at a later date(RR-S5.30)
    c. can claim protection, however, from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date(RR-S5.31)

4. When more than one service is listed as having same status, the order of their listing does not indicate any relative priority among such services.

5. Existing assignments will be protected under their existing status, unless and until it is decided to modify or relocate these assignments.



Note: the above table does not represent any actual allocation and is only for example purposes

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

3. NTFA UPDATED

While considering the primary (*Telecommunications, Radiocommunications and Broadcasting Act No 30 of 2009 as amended by Amendment 22 2018*) and secondary (*Spectrum Planning, Allocation and Assignment Practices*) National Legal and policy framework currently in-force in Vanuatu and taking into account the best practices of the objectives while developing and/or updating the NTFA globally, including the outcomes of the WRC15, these are details in the form Annexures as follows:

Annex A: **Frequency allocation table for Vanuatu**
The table gives detailed service allocation from 8.3 kHz to 3000 GHz

Annex B: **Footnotes to National Table of Frequency Allocation**
The Footnotes for the National Table of Frequency Allocations is based on the current frequency usage in Vanuatu

Annex C: **Definition of terms used in NTFA**
These terms and definitions are all in in accordance with the Radio regulations edition 2016

Annex D: **Frequency allocation chart for Vanuatu**
The chart gives a quick reference of service allocations from 8.3 kHz to 3000 GHz. All details of National Frequency Allocation chart are not possible to be shown on Chart, therefore for complete details of frequency allocations, reference should be made to any latest amended Band Plans, National Table of Frequency Allocations of Vanuatu and related footnotes.

Annex E: **Channeling and band planning Strategies**
Major Bands for PMR, Tetra, Cellular Mobile, Aeronautical Services. The recommended channeling strategies for Fixed microwave links are included as national footnotes in Annex-C

Annex F: **Frequencies for distress and safety communications for Global Maritime Distress and Safety System (GMDSS)**
The frequencies to be used exclusively for Global Maritime Distress and Safety System (GMDSS) communications are given in Annex-F. These frequencies are harmonize and are use locally and internationally.

Annex G: **Frequencies for VHF band for Aeronautical Communications (118 – 137 MHz)**
The VHF aeronautical frequency channel is based on a 25 kHz channel spacing, and is strictly used for aeronautical services

Annex H: **International call Sign Series for the Republic of Vanuatu**
The Table of international call sign series per appendix 42 of the Radio Regulation (RR) assign the call sign per Annex H to the Republic of Vanuatu

Annex I: **Acronyms and Abbreviations**
The Acronyms and abbreviations use in this document can be viewed in Annex I of this document

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-A: Frequency Allocation Table for Vanuatu (8.3 kHz to 3000 GHz)

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
Below 8.3 kHz (Not allocated) 5.53 5.54	(Not allocated)
8.3 - 9 kHz METEOROLOGICAL AIDS 5.54A 5.54B 5.54C	METEOROLOGICAL AIDS
9 - 11.3 kHz METEOROLOGICAL AIDS 5.54A RADIONAVIGATION	METEOROLOGICAL AIDS RADIONAVIGATION **VUT 18**
11.3 - 14 kHz RADIONAVIGATION	RADIONAVIGATION **VUT 18**
14 - 19.95 kHz FIXED MARITIME MOBILE 5.57 5.55 5.56	FIXED MARITIME MOBILE **VUT 18**
19.95 - 20.05 kHz STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz) **VUT 18**
20.05 - 70 kHz FIXED MARITIME MOBILE 5.57 5.56 5.58	FIXED MARITIME MOBILE **VUT 18**
70 - 72 kHz RADIONAVIGATION 5.60 Fixed Maritime mobile 5.57 5.59	RADIONAVIGATION **VUT 18**
72 - 84 kHz FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60	FIXED MARITIME MOBILE RADIONAVIGATION **VUT 18**
84 - 86 kHz RADIONAVIGATION 5.60 Fixed Maritime mobile 5.57 5.59	RADIONAVIGATION Fixed Maritime mobile **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
86 - 90 kHz FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60	FIXED MARITIME MOBILE RADIONAVIGATION **VUT 18**
90 - 110 kHz RADIONAVIGATION 5.62 Fixed 5.64	RADIONAVIGATION Fixed **VUT 18**
110 - 112 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION **VUT 18**
112 - 117.60 kHz RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64 5.65	RADIONAVIGATION Fixed Maritime mobile **VUT 18**
117.6 - 126 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION **VUT 18**
126 - 129 kHz RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64 5.65	RADIONAVIGATION Fixed Maritime mobile **VUT 18**
129 - 130 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION **VUT 18**
130 - 135.7 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.64	FIXED MARITIME MOBILE RADIONAVIGATION **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
135.7 - 137.8 kHz FIXED MARITIME MOBILE RADIONAVIGATION Amateur 5.67A 5.64 5.67B	FIXED MARITIME MOBILE RADIONAVIGATION Amateur **VUT 18**
137.8 - 160 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.64	FIXED MARITIME MOBILE RADIONAVIGATION **VUT 18**
160 - 190 kHz FIXED Aeronautical radionavigation	FIXED Aeronautical radionavigation **VUT 18**
190 - 200 kHz AERONAUTICAL RADIONAVIGATION	AERONAUTICAL RADIONAVIGATION
200 - 285 kHz AERONAUTICAL RADIONAVIGATION Aeronautical mobile	AERONAUTICAL RADIONAVIGATION Aeronautical mobile
285 - 325 kHz AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radio beacons) 5.73	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radio beacons)
325 - 405 kHz AERONAUTICAL RADIONAVIGATION Aeronautical mobile	AERONAUTICAL RADIONAVIGATION
405 - 415 kHz RADIONAVIGATION 5.76 Aeronautical mobile	RADIONAVIGATION Aeronautical mobile
415 - 472 kHz MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION 5.77, 5.80 5.78 5.82	MARITIME MOBILE AERONAUTICAL RADIONAVIGATION
472 - 479 kHz MARITIME MOBILE 5.79 Amateur 5.80A Aeronautical radionavigation 5.77 5.80 5.82 5.80B	MARITIME MOBILE Amateur Aeronautical radionavigation

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
479 - 495 kHz MARITIME MOBILE 5.79 5.79A Aeronautical radionavigation 5.77 5.80 5.82	MARITIME MOBILE Aeronautical radionavigation
495 - 505 kHz MARITIME MOBILE	MARITIME MOBILE
505 - 526.5 kHz MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Land mobile	MARITIME MOBILE AERONAUTICAL RADIONAVIGATION Aeronautical mobile Land mobile
526.5 - 535 kHz BROADCASTING Mobile 5.88	BROADCASTING Mobile
535 - 1 606.5 kHz BROADCASTING	BROADCASTING
1 606.5 - 1800 kHz FIXED MOBILE RADIOLOCATION RADIONAVIGATION 5.91	FIXED MOBILE RADIOLOCATION RADIONAVIGATION
1 800 - 2 000 kHz AMATEUR FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation 5.97	AMATEUR FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation
2 000 - 2 065 kHz FIXED MOBILE	FIXED MOBILE
2 065 - 2 107 kHz MARITIME MOBILE 5.105 5.106	MARITIME MOBILE
2 107 - 2 170 kHz FIXED MOBILE	FIXED MOBILE

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
2 170 - 2 173.5 kHz MARITIME MOBILE	MARITIME MOBILE
2 173.5 - 2 190.5 kHz MOBILE (distress and calling) 5.108 5.109 5.110 5.111	MOBILE (distress and calling)
2 190.5 - 2 194 kHz MARITIME MOBILE	MARITIME MOBILE
2 194 - 2 300 kHz FIXED MOBILE 5.112	FIXED MOBILE
2 300 - 2 495 kHz FIXED MOBILE BROADCASTING 5.113	FIXED MOBILE BROADCASTING
2 495 - 2 501 kHz STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)
2 501 - 2 502 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research
2 502 - 2 505 kHz STANDARD FREQUENCY AND TIME SIGNAL	STANDARD FREQUENCY AND TIME SIGNAL
2 502 - 2 850 kHz FIXED MOBILE	FIXED MOBILE
2 850 - 3 025 kHz AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE (R)
3 025 - 3 155 kHz AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) **VUT 1**
3 155 - 3 200 kHz FIXED MOBILE except aeronautical mobile (R) 5.116 5.117	FIXED MOBILE except aeronautical mobile (R)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
3 200 - 3 230 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	FIXED MOBILE except aeronautical mobile (R) BROADCASTING
3 230 - 3 400 kHz FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116 5.118	FIXED MOBILE except aeronautical mobile BROADCASTING
3 400 - 3 500 kHz AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
3 500 - 3 900 kHz AMATEUR FIXED MOBILE	AMATEUR FIXED MOBILE
3 900 - 3 950 kHz AERONAUTICAL MOBILE BROADCASTING	AERONAUTICAL MOBILE BROADCASTING
3 950 - 4 000 kHz FIXED BROADCASTING 5.126	FIXED BROADCASTING
4 000 - 4 063 kHz FIXED MARITIME MOBILE 5.127 5.126	FIXED MARITIME MOBILE
4 063 - 4 438 kHz MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.128	MARITIME MOBILE
4 438 - 4 488 kHz FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	FIXED MOBILE except aeronautical mobile Radiolocation
4 488 - 4 650 kHz FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile
4 650 - 4 700 kHz AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
4 700 - 4 750 kHz AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) **VUT 1**
4 750 - 4 850 kHz FIXED Land Mobile BROADCASTING 5.113	FIXED Land Mobile BROADCASTING
4 850 - 4 995 kHz FIXED LAND MOBILE BROADCASTING 5.113	FIXED LAND MOBILE BROADCASTING
4 995 - 5 003 kHz STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)
5 003 - 5 005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research
5 005 - 5 060 kHz FIXED BROADCASTING 5.113	FIXED BROADCASTING
5 060 - 5 250 kHz FIXED Mobile except aeronautical mobile 5.133	FIXED Mobile except aeronautical mobile
5 250 - 5 275 kHz FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	FIXED MOBILE except aeronautical mobile Radiolocation
5 275 - 5 351.5 kHz FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile
5 351.5 - 5 366.5 kHz FIXED MOBILE except aeronautical mobile Amateur 5.133B	FIXED MOBILE except aeronautical mobile Amateur
5 366.5 - 5 450 kHz FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile
5 450 - 5 480 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
5 480 - 5 680 kHz AERONAUTICAL MOBILE (R) 5.111 5.115	AERONAUTICAL MOBILE (R)
5 680 - 5 730 kHz AERONAUTICAL MOBILE (OR) 5.111 5.115	AERONAUTICAL MOBILE (OR) **VUT 1**
5 730 - 5 900 kHz FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)
5 900 - 5 950 kHz BROADCASTING 5.134 5.136	BROADCASTING
5 950 - 6 200 kHz BROADCASTING	BROADCASTING
6 200 - 6 525 kHz MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	MARITIME MOBILE
6 525 - 6 685 kHz AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
6 685 - 6 765 kHz AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) **VUT 1**
6 765 - 7 000 kHz FIXED MOBILE except aeronautical mobile (R) 5.138	FIXED MOBILE except aeronautical mobile (R) **VUT 18**
7 000 - 7 100 kHz AMATEUR AMATEUR - SATELLITE 5.140 5.141 5.141A	AMATEUR AMATEUR - SATELLITE
7 100 - 7 200 kHz AMATEUR 5.141A 5.141B	AMATEUR FIXED MOBILE
7 200 - 7 300 kHz BROADCASTING	BROADCASTING
7 300 - 7 400 kHz BROADCASTING 5.134 5.143 5.143A 5.143B 5.143C 5.143D	BROADCASTING

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
7 400 - 7 450 kHz BROADCASTING 5.143A 5.143C	BROADCASTING FIXED
7 450 - 8 100 kHz FIXED MOBILE except aeronautical mobile (R) 5.144	FIXED MOBILE except aeronautical mobile (R)
8 100 - 8 195 kHz FIXED MARITIME MOBILE	FIXED MARITIME MOBILE
8 195 - 8 815 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	MARITIME MOBILE
8 815 - 8 965 kHz AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
8 965 - 9 040 kHz AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) **VUT 1**
9 040 - 9 305 kHz FIXED	FIXED
9 305 - 9 355 kHz FIXED Radiolocation 5.145A	FIXED Radiolocation
9 355 - 9 400 kHz FIXED	FIXED
9 400 - 9 500 kHz BROADCASTING 5.134 5.146	BROADCASTING
9 500 - 9 900 kHz BROADCASTING 5.147	BROADCASTING
9 900 - 9 995 kHz FIXED	FIXED
9 995 - 10 003 kHz STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
10 003 - 10 005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space research
10 005 - 10 100 kHz AERONAUTICAL MOBILE (R) 5.111	AERONAUTICAL MOBILE (R) 5.111
10 100 - 10 150 kHz FIXED Amateur	FIXED Amateur
10 150 - 11 175 kHz FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)
11 175 - 11 275 kHz AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) **VUT 1**
11 275 - 11 400 kHz AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
11 400 - 11 600 kHz FIXED	FIXED
11 600 - 11 650 kHz BROADCASTING 5.134 5.146	BROADCASTING
11 650 - 12 050 kHz BROADCASTING 5.147	BROADCASTING
12 050 - 12 100 kHz BROADCASTING 5.134 5.146	BROADCASTING
12 100 - 12 230 kHz FIXED	FIXED
12 230 - 13 200 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE
13 200 - 13 260 kHz AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) **VUT 1**
13 260 - 13 360 kHz AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
13 360 - 13 410 kHz FIXED RADIO ASTRONOMY 5.149	FIXED RADIO ASTRONOMY
13 410 - 13 450 kHz FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)
13 450 - 13 550 kHz FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A	FIXED Mobile except aeronautical mobile (R) Radiolocation
13 550 - 13 570 kHz FIXED Mobile except aeronautical mobile (R) 5.150	FIXED Mobile except aeronautical mobile (R) **VUT 18**
13 570 - 13 600 kHz BROADCASTING 5.134 5.151	BROADCASTING
13 600 - 13 800 kHz BROADCASTING	BROADCASTING
13 800 - 13 870 kHz BROADCASTING 5.134 5.151	BROADCASTING
13 870 - 14 000 kHz FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)
14 000 - 14 250 kHz AMATEUR AMATEUR - SATELLITE	AMATEUR AMATEUR - SATELLITE
14 250 - 14 350 kHz AMATEUR 5.152	AMATEUR
14 350 - 14 990 kHz FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile (R)
14 990 - 15 005 kHz STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
15 005 - 15 010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research
15 010 - 15 100 kHz AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) **VUT 1**
15 100 - 15 600 kHz BROADCASTING	BROADCASTING
15 600 - 15 800 kHz BROADCASTING 5.134 5.146	BROADCASTING
15 800 - 16 100 kHz FIXED 5.153	FIXED
16 100 - 16 200 kHz FIXED Radiolocation 5.145A	FIXED Radiolocation
16 200 - 16 360 kHz FIXED	FIXED
16 360 - 17 410 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE
17 410 - 17 480 kHz FIXED	FIXED
17 480 - 17 550 kHz BROADCASTING 5.134 5.146	BROADCASTING
17 550 - 17 900 kHz BROADCASTING	BROADCASTING
17 900 - 17 970 kHz AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
17 970 - 18 030 kHz AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR) **VUT 1**
18 030 - 18 052 kHz FIXED	FIXED
18 052 - 18 068 kHz FIXED Space research	FIXED Space research

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
18 068 - 18 168 kHz AMATEUR AMATEUR - SATELLITE 5.154	AMATEUR AMATEUR - SATELLITE
18 168 - 18 780 kHz FIXED Mobile except aeronautical mobile	FIXED Mobile except aeronautical mobile
18 780 - 18 900 kHz MARITIME MOBILE	MARITIME MOBILE
18 900 - 19 020 kHz BROADCASTING 5.134 5.146	BROADCASTING
19 020 - 19 680 kHz FIXED	FIXED
19 680 - 19 800 kHz MARITIME MOBILE 5.132	MARITIME MOBILE
19 800 - 19 990 kHz FIXED	FIXED
19 990 - 19 995 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space research
19 995 - 20 010 kHz STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz)
20 010 - 21 000 kHz FIXED Mobile	FIXED Mobile
21 000 - 21 450 kHz AMATEUR AMATEUR - SATELLITE	AMATEUR AMATEUR - SATELLITE
21 450 - 21 850 kHz BROADCASTING	BROADCASTING
21 850 - 21 870 kHz FIXED 5.155A 5.155	FIXED
21 870 - 21 924 kHz FIXED 5.155B	FIXED

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
21 924 - 22 000 kHz AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)
22 000 - 22 855kHz MARITIME MOBILE 5.132 5.156	MARITIME MOBILE
22 855 - 23 000 kHz FIXED 5.156	FIXED
23 000 - 23 200 kHz FIXED Mobile except aeronautical mobile (R) 5.156	FIXED Mobile except aeronautical mobile (R)
23 200 - 23 350 kHz FIXED 5.156A AERONAUTICAL MOBILE (OR)	FIXED AERONAUTICAL MOBILE (OR)
23 350 - 24 000 kHz FIXED MOBILE except aeronautical mobile 5.157	FIXED MOBILE except aeronautical mobile
24 000 - 24 450 kHz FIXED LAND MOBILE	FIXED LAND MOBILE
24 450 - 24 600 kHz FIXED LAND MOBILE Radiolocation 5.132A	FIXED LAND MOBILE Radiolocation
24 600 - 24 890 kHz FIXED LAND MOBILE	FIXED LAND MOBILE
24 890 - 24 990 kHz AMATEUR AMATEUR - SATELLITE	AMATEUR AMATEUR - SATELLITE
24 990 - 25 005 kHz STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)
25 005 - 25 010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research	STANDARD FREQUENCY AND TIME SIGNAL Space research
25 010 - 25 070 kHz FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
25 070 - 25 210 kHz MARITIME MOBILE	MARITIME MOBILE
25 210 - 25 550 kHz FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile
25 550 - 25 670 kHz RADIO ASTRONOMY 5.149	RADIO ASTRONOMY
25 670 - 26 100 kHz BROADCASTING	BROADCASTING
26 100 - 26 175 kHz MARITIME MOBILE 5.132	MARITIME MOBILE
26 175 - 26 200 kHz FIXED MOBILE except aeronautical mobile	FIXED MOBILE except aeronautical mobile
26 200 - 26 350 kHz FIXED MOBILE except aeronautical mobile Radiolocation 5.132A	FIXED MOBILE except aeronautical mobile radiolocation
26 350 - 27 500 kHz FIXED MOBILE except aeronautical mobile 5.150	FIXED MOBILE except aeronautical mobile **VUT 17** **VUT 18**
27.5 - 28 MHz[1] METEOROLOGICAL AIDS FIXED MOBILE	METEOROLOGICAL AIDS FIXED MOBILE
28 - 29.7 MHz AMATEUR AMATEUR - SATELLITE	AMATEUR AMATEUR - SATELLITE
29.7 - 30.005 MHz FIXED MOBILE	FIXED MOBILE **VUT 18**

[1] Note that the Frequency band is now in MHz

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
30.005 - 30.01 MHz SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH
30.01 - 37.5 MHz FIXED MOBILE	FIXED MOBILE **VUT 19** **VUT 18**
37.5 - 38.25 MHz FIXED MOBILE Radio astronomy 5.149	FIXED MOBILE Radio astronomy
38.25 - 39.5 MHz FIXED MOBILE	FIXED MOBILE
39.5 - 39.986 MHz FIXED MOBILE RADIOLOCATION 5.132A	FIXED MOBILE RADIOLOCATION **VUT 19**
39.986 - 40 MHz FIXED MOBILE RADIOLOCATION 5.132A Space research	FIXED MOBILE RADIOLOCATION Space research **VUT 19**
40.0 - 40.02 MHz FIXED MOBILE Space research	FIXED MOBILE Space research **VUT 19**
40.02 - 40.98 MHz FIXED MOBILE 5.150	FIXED MOBILE **VUT 19**
40.98 - 41.015 MHz FIXED MOBILE Space research 5.160 5.161	FIXED MOBILE Space research **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
41.015 - 42 MHz FIXED MOBILE 5.160 5.161 5.161A	FIXED MOBILE
42 - 42.5 MHz FIXED MOBILE 5.161	FIXED MOBILE
42.5 - 44 MHz FIXED MOBILE 5.160 5.161 5.161A	FIXED MOBILE
44 - 47MHz FIXED MOBILE 5.162 5.162A	FIXED MOBILE
47 - 50 MHz FIXED MOBILE BROADCASTING 5.162A	FIXED MOBILE BROADCASTING
50 - 54 MHz AMATEUR 5.162A 5.167 5.167A 5.168 5.170	AMATEUR
54 - 68 MHz FIXED MOBILE BROADCASTING 5.162A	FIXED MOBILE BROADCASTING
68 - 74.8 MHz FIXED MOBILE 5.149 5.176 5.179	FIXED MOBILE **VUT 19** **VUT 18**
74.8 - 75.2 MHz AERONAUTICAL RADIONAVIGATION 5.180 5.181	AERONAUTICAL RADIONAVIGATION
75.2 - 75.4 MHz FIXED MOBILE 5.179	FIXED MOBILE **VUT 21**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
75.4 - 87 MHz FIXED MOBILE 5.182 5.183 5.188	FIXED MOBILE **VUT 21**
87 - 100 MHz FIXED MOBILE BROADCASTING	FIXED MOBILE BROADCASTING **VUT 18**
100 - 108 MHz BROADCASTING 5.192 5.194	BROADCASTING **VUT 18**
108 - 117.975 MHz AERONAUTICAL RADIONAVIGATION 5.197 5.197A	AERONAUTICAL RADIONAVIGATION
117.975 - 137 MHz AERONAUTICAL MOBILE (R) 5.111 5.200 5.201 5.202	AERONAUTICAL MOBILE (R)
137 - 137.025 MHz SPACE OPERATION (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space - to - Earth) Fixed Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	SPACE OPERATION (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) SPACE RESEARCH (space - to - Earth) Fixed Mobile except aeronautical mobile (R)
137.025 - 137.175 MHz SPACE OPERATION (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) SPACE RESEARCH (space - to - Earth) Fixed Mobile except aeronautical mobile (R) Mobile - satellite (space - to - Earth) 5.208A 5.208B 5.209 5.204 5.205 5.206 5.207 5.208	SPACE OPERATION (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) SPACE RESEARCH (space - to - Earth) Fixed Mobile - satellite (space - to - Earth) Mobile except aeronautical mobile (R)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
137.175 - 137.825 MHz SPACE OPERATION (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space - to - Earth) Fixed Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	SPACE OPERATION (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) SPACE RESEARCH (space - to - Earth) Fixed Mobile except aeronautical mobile (R)
137.825 - 138 MHz SPACE OPERATION (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) SPACE RESEARCH (space - to - Earth) Fixed Mobile except aeronautical mobile (R) Mobile - satellite (space - to - Earth) 5.208A 5.208B 5.209 5.204 5.205 5.206 5.207 5.208	SPACE OPERATION (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) SPACE RESEARCH (space - to - Earth) Fixed Mobile - satellite (space - to - Earth) 5.208A 5.209 Mobile except aeronautical mobile (R)
138 - 143.6 MHz FIXED MOBILE Space research (space - to - Earth) 5.207 5.213	FIXED MOBILE Space research (space - to - Earth)
143.6 - 143.65 MHz FIXED MOBILE SPACE RESEARCH (space - to - Earth) 5.207 5.213	FIXED MOBILE SPACE RESEARCH (space - to - Earth)
143.65 - 144 MHz FIXED MOBILE Space research (space - to - Earth) 5.207 5.213	FIXED MOBILE Space research (space - to - Earth)
144 - 146MHz AMATEUR AMATEUR - SATELLITE 5.216	AMATEUR AMATEUR - SATELLITE
146 - 148 MHz AMATEUR FIXED MOBILE 5.217	AMATEUR FIXED MOBILE

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
148 - 149.9 MHz FIXED MOBILE MOBILE - SATELLITE (Earth - to - space) 5.209 5.218 5.219 5.221	FIXED MOBILE MOBILE – SATELLITE (Earth - to - space)
149.9 - 150.05 MHz MOBILE - SATELLITE (Earth - to - space) 5.209 5.220	MOBILE - SATELLITE (Earth - to - space) **VUT 21**
150.05 - 154 MHz FIXED MOBILE 5.225	FIXED MOBILE **VUT 21**
154 - 156.4875 MHz FIXED MOBILE 5.225A 5.226	FIXED MOBILE **VUT 21**
156.4875 - 156.5625 MHz MARITIME MOBILE (distress and calling via DSC) 5.111 5.226 5.227	MARITIME MOBILE (distress and calling via DSC)
156.5625 - 156.7625 MHz FIXED MOBILE 5.226	FIXED MOBILE
156.7625 - 156.7875 MHz MARITIME MOBILE Mobile satellite (Earth –to - space) 5.111 5.226 5.228	MARITIME MOBILE Mobile satellite (Earth –to - space)
156.7875 - 156.8125 MHz MARITIME MOBILE (distress and calling) 5.111 5.226	MARITIME MOBILE (distress and calling)
156.8125 - 156.8375 MHz MARITIME MOBILE Mobile satellite (Earth –to - space) 5.111 5.226 5.228	MARITIME MOBILE Mobile satellite (Earth –to - space)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
156.8375 - 161.9375 MHz FIXED MOBILE 5.226	FIXED MOBILE **VUT 18**
161.9375 - 161.9625 MHz FIXED MOBILE Maritime mobile-satellite (Earth-to-space) 5.228AA 5.226	FIXED MOBILE Maritime mobile-satellite (Earth-to-space)
161.9625 - 161.9875 MHz MARITIME MOBILE Aeronautical mobile (OR) 5.228E Mobile - satellite (Earth - to - space) 5.228F 5.226	MARITIME MOBILE Aeronautical mobile (OR) Mobile - satellite (Earth - to - space)
161.9875 - 162.0125 MHz FIXED MOBILE Maritime mobile-satellite (Earth-to-space) 5.228AA 5.226	FIXED MOBILE Maritime mobile-satellite (Earth-to-space
162.0125 - 162.0375 MHz MARITIME MOBILE Aeronautical mobile (OR) 5.228E Mobile - satellite (Earth - to - space) 5.228F 5.226	MARITIME MOBILE Aeronautical mobile (OR) Mobile - satellite (Earth - to - space)
162.0375 - 174 MHz FIXED MOBILE 5.226 5.230 5.231 5231	FIXED MOBILE **VUT 21** **VUT 18**
174 - 223 MHz FIXED MOBILE BROADCASTING 5.233 5.238 5.240 5.245	FIXED MOBILE BROADCASTING

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
223 - 230 MHz BROADCASTING FIXED MOBILE AERONAUTICAL RADIONAVIGATION Radiolocation 5.250	BROADCASTING FIXED MOBILE AERONAUTICAL RADIONAVIGATION Radiolocation
230 - 235 MHz FIXED MOBILE AERONAUTICAL RADIONAVIGATION 5.250	FIXED MOBILE AERONAUTICAL RADIONAVIGATION SERVICE
235 - 267MHz FIXED MOBILE 5.111 5.252 5.254 5.256 5.256A	FIXED MOBILE **VUT 18**
267 - 272MHz FIXED MOBILE Space operation (space - to - Earth) 5.254 5.257	FIXED MOBILE Space operation (space - to - Earth) **VUT 18**
272 - 273MHz SPACE OPERATION (space - to - Earth) FIXED MOBILE 5.254	SPACE OPERATION (space - to - Earth) FIXED MOBILE **VUT 18**
273 - 312MHz FIXED MOBILE 5.254	FIXED MOBILE **VUT 18**
312 - 315MHz FIXED MOBILE Mobile – satellite (Earth - to - space) 5.254 5.255	FIXED MOBILE Mobile - satellite (Earth - to - space) **VUT 18**
315 - 322MHz FIXED MOBILE 5.254	FIXED MOBILE **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
322 - 328.6 MHz FIXED MOBILE RADIO ASTRONOMY 5.149	FIXED MOBILE RADIO ASTRONOMY
328.6 - 335.4 MHz AERONAUTICAL RADIONAVIGATION 5.258 5.259	AERONAUTICAL RADIONAVIGATION
335.4 - 387 MHz FIXED MOBILE 5.254	FIXED MOBILE
387 - 390 MHz FIXED MOBILE Mobile - satellite (space - to - Earth) 5.208A 5.254 5.255	FIXED MOBILE Mobile - satellite (space - to - Earth)
390 - 399.9 MHz FIXED MOBILE 5.254	FIXED MOBILE
399.9 - 400.05 MHz MOBILE - SATELLITE (Earth - to - space) 5.209 5.220	MOBILE - SATELLITE (Earth - to - space)
400.05 - 400.15MHz STANDARD FREQUENCY AND TIME SIGNAL - SATELLITE (400.1 MHz) 5.261 5.262	STANDARD FREQUENCY AND TIME SIGNAL - SATELLITE (400.1 MHz)
400.15 - 401 MHz METEOROLOGICAL AIDS METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space - to - Earth) 5.263 Space operation (space - to - Earth) 5.262 5.264	METEOROLOGICAL AIDS METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) SPACE RESEARCH (space - to - Earth) Space operation (space - to - Earth)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
401 - 402 MHz METEOROLOGICAL AIDS SPACE OPERATION (space - to - Earth) EARTH EXPLORATION - SATELLITE (Earth - to - space) METEOROLOGICAL - SATELLITE (Earth - to - space) Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS SPACE OPERATION (space - to - Earth) EARTH EXPLORATION - SATELLITE (Earth - to - space) METEOROLOGICAL - SATELLITE (Earth - to - space) Fixed Mobile except aeronautical mobile
402 - 403 MHz METEOROLOGICAL AIDS EARTH EXPLORATION - SATELLITE (Earth - to - space) METEOROLOGICAL - SATELLITE (Earth - to - space) Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS EARTH EXPLORATION - SATELLITE (Earth - to - space) METEOROLOGICAL - SATELLITE (Earth - to - space) Fixed Mobile except aeronautical mobile **VUT 18**
403 - 406 MHz METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile 5.265	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile **VUT 18**
406 - 406.1 MHz MOBILE - SATELLITE (Earth - to - space) 5.265 5.266 5.267	MOBILE - SATELLITE (Earth - to - space)
406.1 - 410 MHz FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.265	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY
410 - 420 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space - to - space) 5.268	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space - to - space)
420 - 430 MHz FIXED MOBILE except aeronautical mobile Radiolocation 5.269 5.270 5.271	FIXED MOBILE except aeronautical mobile Radiolocation
430 - 432 MHz RADIOLOCATION Amateur 5.271 5.276 5.278 5.279	RADIOLOCATION Amateur

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
432 - 438 MHz RADIOLOCATION Amateur Earth exploration - satellite (active) 5.279A 5.271 5.276 5.278 5.279 5.281 5.282	RADIOLOCATION Amateur Earth exploration - satellite (active) **VUT 18**
438 - 440 MHz RADIOLOCATION Amateur 5.271 5.276 5.278 5.279	RADIOLOCATION Amateur
440 - 450 MHz FIXED MOBILE except aeronautical mobile Radiolocation 5.269 5.270 5.271 5.284 5.285 5.286	FIXED MOBILE except aeronautical mobile Radiolocation **VUT 18**
450 - 455 MHz FIXED MOBILE 5.286AA 5.209 5.271 5.286 5.286A 5.286B 5.286C 5.286D 5.286E	FIXED MOBILE **VUT 22**
455 - 456 MHz FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	FIXED MOBILE **VUT 22**
456 - 459 MHz FIXED MOBILE 5.286AA 5.271 5.287 5.288	FIXED MOBILE **VUT 22** **VUT 18**
459 - 460 MHz FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	FIXED MOBILE **VUT 22**
460 - 470 MHz FIXED MOBILE 5.286AA Meteorological - satellite (space - to - Earth) 5.287 5.288 5.289 5.290	FIXED MOBILE Meteorological - satellite (space - to - Earth) **VUT 22** **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
470 - 585 MHz FIXED MOBILE 5.296A BROADCASTING 5.291 5.298	FIXED BROADCASTING MOBILE **VUT 17** **VUT 18**
585 - 610 MHz FIXED BROADCASTING MOBILE 5.296A RADIONAVIGATION 5.149 5.305 5.306 5.307	FIXED BROADCASTING MOBILE RADIONAVIGATION
610 - 890 MHz FIXED MOBILE 5.296A 5.313A 5.317A BROADCASTING 5.149 5.305 5.306 5.307 5.311A 5.320	FIXED MOBILE BROADCASTING **VUT 20** **VUT 22** **VUT 19** **VUT 18**
890 - 942 MHz FIXED MOBILE 5.317A BROADCASTING Radiolocation 5.327	FIXED MOBILE BROADCASTING Radiolocation **VUT 22** **VUT 18**
942 - 960 MHz FIXED MOBILE 5.317A BROADCASTING 5.320	FIXED MOBILE BROADCASTING **VUT 22**
960 - 1 164 MHz AERONAUTICAL RADIONAVIGATION 5.328 AERONAUTICAL MOBILE (R) 5.327A 5.328AA	 AERONAUTICAL RADIONAVIGATION AERONAUTICAL MOBILE (R)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
1 164 - 1 215 MHz AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION - SATELLITE (space - to - Earth) (space - to - space) 5.328B 5.328A	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - to - space)
1 215 - 1 240 MHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - to - space) 5.328B 5.329 5.329A SPACE RESEARCH (active) 5.330 5.331 5.332	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - to - space) SPACE RESEARCH (active)
1 240 - 1 300 MHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - to - space) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.282 5.330 5.331 5.332 5.335 5.335A	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - to - space) SPACE RESEARCH (active) Amateur
1 300 - 1 350 MHz AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION - SATELLITE (Earth - to - space) 5.149 5.337A	AERONAUTICAL RADIONAVIGATION RADIOLOCATION RADIONAVIGATION - SATELLITE (Earth - to - space)
1 350 - 1 400 MHz RADIOLOCATION 5.338A 5.149 5.334 5.339	RADIOLOCATION
1 400 - 1 427 MHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
1 427 - 1 429 MHz SPACE OPERATION (Earth - to - space) FIXED MOBILE except aeronautical mobile 5.341A 5.341B 5.314C 5.338A 5.341	SPACE OPERATION (Earth - to - space) FIXED MOBILE except aeronautical mobile

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
1 429 - 1 452 MHz FIXED MOBILE 5.341B 5.341C 5.343 5.338A 5.341	FIXED MOBILE
1 452 - 1 492 MHz FIXED MOBILE 5.341B 5.343 5.346A BROADCASTING BROADCASTING - SATELLITE 5.208B 5.341 5.344 5.345	FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING - SATELLITE
1 492 - 1 518 MHz FIXED MOBILE 5.341C 5.341	FIXED MOBILE except aeronautical mobile
1 518 - 1 525 MHz FIXED MOBILE MOBILE - SATELLITE (space - to - Earth) 5.348 5.348A 5.348B 5.351A 5.341	FIXED MOBILE MOBILE - SATELLITE (space - to - Earth)
1 525 - 1 530 MHz SPACE OPERATION (space - to - Earth) FIXED MOBILE - SATELLITE (space - to - Earth) 5.351A Earth exploration - satellite Mobile except aeronautical mobile 5.349 5.341 5.351 5.352A 5.354	SPACE OPERATION (space - to - Earth) FIXED MOBILE - SATELLITE (space - to - Earth) MOBILE (except aeronautical mobile) Earth exploration - satellite
1 530 - 1 535 MHz SPACE OPERATION (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) 5.208B 5.351A 5.353A Earth exploration - satellite Fixed Mobile 5.343 5.341 5.351 5.354	SPACE OPERATION (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) Earth exploration - satellite Fixed Mobile

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*	
1 535 - 1 559 MHz MOBILE - SATELLITE (space - to - Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A 5.359 5.362A	MOBILE - SATELLITE (space - to - Earth)	
1 559 - 1 610MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - to - space) 5.208B 5.328B 5.329A 5.341	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - to - space)	
1 610 - 1 610.6 MHz MOBILE - SATELLITE (Earth - to - space) 5.351A AERONAUTICALRADIONAVIGATION Radiodetermination Satellite (Earth to space) 5.341 5.355 5.359 5.364 5.366 5.367 5.368 5.369 5.372	MOBILE - SATELLITE (Earth - to - space) AERONAUTICALRADIONAVIGATION Radiodetermination Satellite (Earth to space)	
1 610.6 - 1 613.8 MHz MOBILE - SATELLITE (Earth - to - space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION Radiodetermination - Satellite (Earth to space) 5.149 5.341 5.355 5.359 5.364 5.366 5.367 5.368 5.369 5.372	MOBILE - SATELLITE (Earth - to - space) RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION Radiodetermination - Satellite (Earth to space)	
1 613.8 - 1 626.5 MHz MOBILE - SATELLITE (Earth - to - pace) 5.351A AERONAUTICAL RADIONAVIGATION Radiodetermination - Satellite (Earth - to - space) 5.369 Mobile - satellite (space - to - Earth) 5.208B 5.341 5.355 5.359 5.3645.365 5.366 5.367 5.368 5.369 5.372	MOBILE - SATELLITE (Earth - to - pace) AERONAUTICAL RADIONAVIGATION RADIODETERMINATION - Satellite (Earth - to - space) Mobile - satellite (space - to - Earth)	
1 626.5 - 1 660 MHz MOBILE - SATELLITE (Earth - to - space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.357A 5.359 5.362 5.374 5.375 5.376	MOBILE - SATELLITE (Earth - to - space)	
1 660 - 1 660.5 MHz MOBILE - SATELLITE (Earth - to - space) 5.351A RADIO ASTRONOMY 5.1495.341 5.351 5.354 5.362A 5.376A	MOBILE - SATELLITE (Earth - to - space) RADIO ASTRONOMY	

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
1 660.5 - 1 668 MHz RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile
1 668 - 1 668.4 MHz MOBILE - SATELLITE (Earth - to - space) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A	MOBILE - SATELLITE (Earth - to - space) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile
1 668.4 - 1 670 MHz METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE - SATELLITE (Earth - to - space) 5.351A 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE - SATELLITE (Earth - to - space) RADIO ASTRONOMY
1 670 - 1 675 MHz METEOROLOGICAL AIDS FIXED METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE 5.380 MOBILE - SATELLITE (Earth - to - space) 5.351A 5.379B 5.341 5.379D 5.379E 5.380A	METEOROLOGICAL AIDS FIXED METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE MOBILE - SATELLITE (Earth - to - space)
1 675 - 1 690 MHz METEOROLOGICAL AIDS FIXED METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile 5.341	METEOROLOGICAL AIDS FIXED METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile
1 690 - 1 700 MHz METEOROLOGICAL AIDS METEOROLOGICAL - SATELLITE (space - to - Earth) 5.289 5.341 5.381	METEOROLOGICAL AIDS METEOROLOGICAL - SATELLITE (space - to - Earth)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
1 700 - 1 710 MHz FIXED METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile 5.289 5.341 5.384	FIXED METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile
1 710 - 1 930 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.388 5.387 5.386 5.385 5.341 5.149	MOBILE FIXED **VUT 22**
1 930 - 1 970 MHz FIXED MOBILE 5.388A 5.388B 5.388	MOBILE FIXED **VUT 22**
1 970 - 1 980 MHz FIXED MOBILE 5.388A 5.388B 5.388	MOBILE FIXED **VUT 22**
1 980 - 2 010 MHz FIXED MOBILE MOBILE - SATELLITE (Earth - to - space) 5.351A 5.388 5.389A 5.389B 5.389F	FIXED MOBILE MOBILE - SATELLITE (Earth - to - space) **VUT 22**
2 010 - 2 025 MHz MOBILE 5.388A 5.388B 5.388	MOBILE 5 **VUT 22**
2 025 - 2 110 MHz SPACE OPERATION (Earth - to - space) (space - to - space) EARTH EXPLORATION - SATELLITE (Earth - to - space) (space - to - space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth - to - space) (space - to - space) 5.392	SPACE OPERATION (Earth - to - space) (space - to - space) EARTH EXPLORATION - SATELLITE (Earth - to - space) (space - to - space) FIXED MOBILE SPACE RESEARCH (Earth - to - space) (space - to - space)
2 110 - 2 120 MHz FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (Earth-to-space) 5.388	MOBILE FIXED SPACE RESEARCH (deep space) (Earth-to-space) **VUT 22**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
2 120 - 2 160 MHz FIXED MOBILE 5.388A 5.388ZB 5.388	MOBILE FIXED **VUT 22**
2 160 - 2 170 MHz **FIXED** MOBILE 5.388A 5.388B 5.388	MOBILE **FIXED** **VUT 22**
2 170 - 2 200 MHz FIXED MOBILE MOBILE - SATELLITE (space - to - Earth)5.351A 5.3885.389A 5.389F	FIXED MOBILE MOBILE - SATELLITE (space - to - Earth) **VUT 22**
2 200 - 2 290 MHz SPACE OPERATION (space - to - Earth) (space - to - space) EARTH EXPLORATION - SATELLITE (space - to - Earth) (space - to - space) FIXED MOBILE 5.391 SPACE RESEARCH (space - to - Earth) (space - to - space) 5.392	SPACE OPERATION (space - to - Earth) (space - to - space) EARTH EXPLORATION - SATELLITE (space - to - Earth) (space - to - space) FIXED MOBILE SPACE RESEARCH (space - to - Earth) (space - to - space)
2 290 - 2 300 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space - to - Earth)	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space - to - Earth)
2 300 - 2 450 MHz FIXED MOBILE 5.384A RADIOLOCATION Amateur 5.150 5.282 5.393 5.394 5.396	FIXED MOBILE RADIOLOCATION Amateur **VUT 22** **VUT 18**
2 450 - 2 483.5 MHz FIXED MOBILE RADIOLOCATION 5.150	FIXED MOBILE RADIOLOCATION **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
2 483.5 - 2 500 MHz FIXED MOBILE MOBILE - SATELLITE (space - to - Earth)5.351A RADIOLOCATION RADIODETERMINATION - SATELLITE (space - to - Earth) 5.398 5.150 5.401 5.402	FIXED MOBILE MOBILE - SATELLITE (space - to - Earth) RADIOLOCATION RADIODETERMINATION - SATELLITE (space - to - Earth)
2 500 - 2 520 MHz FIXED 5.410 FIXED-SATELLITE (space-to-earth) 5.415 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (space-to-earth) 5.351A 5.407 5.414 5.414A 5.404 5.415A	FIXED MOBILE except aeronautical mobile **VUT 22**
2 520 - 2 535 MHz FIXED 5.410 FIXED-SATELLITE (space-to-earth) 5.415 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.403 5.414A 5.415A	FIXED MOBILE except aeronautical mobile **VUT 22**
2 535 - 2 655 MHz FIXED 5.410 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.418 5.418A 5.418B 5.417C 5.417D 5.418C	FIXED MOBILE except aeronautical mobile **VUT 22**
2 655 - 2 670 MHz FIXED 5.410 FIXED-SATELLITE (Earth-to-space) 5.415 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.208B 5.413 5.416Earth exploration-satellite(passive) Radio astronomy Space research (passive) 5.149 5.420	FIXED MOBILE except aeronautical mobile **VUT 22**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
2 670 - 2 690 MHz FIXED 5.410 FIXED-SATELLITE (Earth-to-space) 5.415 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (Earth-to-space) 5.351A 5.419 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149	FIXED MOBILE except aeronautical mobile **VUT 22**
2 690 - 2 700 MHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.422	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
2 700 - 2 900 MHz AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423 5.424	AERONAUTICAL RADIONAVIGATION Radiolocation
2 900 - 3 100 MHz RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	RADIOLOCATION RADIONAVIGATION **VUT 18**
3 100 - 3 300 MHz RADIOLOCATION Earth exploration - satellite (active) Space research (active) 5.149 5.428	RADIOLOCATION Earth exploration - satellite (active) Space research (active) **VUT 18**
3 300 - 3 400 MHz RADIOLOCATION Amateur 5.149 5.429 5.429E 5.429F	RADIOLOCATION Amateur **VUT 18**
3 400 - 3 500 MHz FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile 5.432 5.432B Radiolocation 5.433 5.282 5.432A	FIXED Amateur Mobile Radiolocation **VUT 22**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
3 500 - 3 600 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.433A Radiolocation 5.433	FIXED MOBILE except aeronautical mobile Radiolocation **VUT 22**
3 600 - 3 700 MHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile Radiolocation 5.435	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile Radiolocation
3 700 - 4 200 MHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile
4 200 - 4 400 MHz AERONAUTICAL MOBILE (R) 5.436 AERONAUTICAL RADIONAVIGATION 5.438 5.437 5.439 5.440	AERONAUTICAL RADIONAVIGATION
4 400 - 4 500 MHz FIXED MOBILE 5.440A	FIXED MOBILE
4 500 - 4 800 MHz FIXED FIXED - SATELLITE (space - to - Earth) 5.441 MOBILE5.440A	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE **VUT 4**
4 800 - 4 990 MHz FIXED MOBILE 5.440A 5.441A 5.441B 5.442 Radio astronomy 5.149 5.339 5.443	FIXED MOBILE Radio astronomy
4 990 - 5 000 MHz FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive)
5 000 - 5 010 MHz AERONAUTICAL MOBILE SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION - SATELLITE (Earth - to - space)	AERONAUTICAL MOBILE SATELLITE (R) AERONAUTICAL RADIONAVIGATION RADIONAVIGATION - SATELLITE (Earth - to - space)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
5 010 - 5 030 MHz AERONAUTICAL MOBILE SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - space) 5.328B 5.443B	AERONAUTICAL MOBILE SATELLITE (R) AERONAUTICAL RADIONAVIGATION RADIONAVIGATION - SATELLITE (space - to - Earth) (space - space)
5 030 - 5 091 MHz AERONAUTICAL MOBILE (R) 5.443C AERONAUTICAL MOBILE SATELLITE (R) 5.443D AERONAUTICAL RADIONAVIGATION 5.444	AERONAUTICAL MOBILE (R) AERONAUTICAL MOBILE SATELLITE (R) AERONAUTICAL RADIONAVIGATION
5 091 - 5 150 MHz FIXED-SATELLITE (Earth-to-space) 5.444A AERONAUTICAL MOBILE 5.444B AERONAUTICAL MOBILE SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION 5.444 5.	AERONAUTICAL MOBILE AERONAUTICAL MOBILE SATELLITE (R) AERONAUTICAL RADIONAVIGATION
5 150 - 5 250 MHz AERONAUTICAL RADIONAVIGATION FIXED - SATELLITE (Earth - to - space) 5.447A MOBILE except aeronautical mobile 5.446A 5.446B 5.446 5.446C 5.447 5.447B 5.447C	AERONAUTICAL RADIONAVIGATION FIXED - SATELLITE (Earth - to - space) MOBILE except aeronautical mobile **VUT 18**
5 250 - 5 255 MHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except aeronautical mobile 5.446A 5.447F 5.447E 5.448 5.448A	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH MOBILE except aeronautical mobile **VUT 18**
5 255 - 5 350 MHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 5.446A 5.447F 5.447E 5.448 5.448A	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) FIXED MOBILE except aeronautical mobile **VUT 18**
5 350 - 5 460 MHz EARTH EXPLORATION - SATELLITE (active) 5.448B SPACE RESEARCH (active) 5.448C AERONAUTICAL RADIONAVIGATION 5.449 RADIOLOCATION 5.448D	EARTH EXPLORATION - SATELLITE (active) SPACE RESEARCH (active) AERONAUTICAL RADIONAVIGATION RADIOLOCATION

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
5 460 - 5 470 MHz RADIONAVIGATION 5.449 EARTH EXPLORATION - SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B	RADIONAVIGATION EARTH EXPLORATION - SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION
5 470 - 5 570 MHz MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A 5.450A EARTH EXPLORATION - SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.450B 5.448B 5.450 5.451	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile EARTH EXPLORATION - SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION **VUT 18**
5 570 - 5 650 MHz MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B 5.450 5.451 5.452	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile RADIOLOCATION **VUT 18**
5 650 - 5 725 MHz RADIOLOCATION MOBILE except aeronautical mobile5.446A 5.450A Amateur Space research (deep space) 5.282 5.451 5.453 5.454 5.455	RADIOLOCATION MOBILE except aeronautical mobile Amateur Space research (deep space) **VUT 18**
5 725 - 5 830 MHz RADIOLOCATION Amateur 5.150 5.453 5.455	RADIOLOCATION Amateur **VUT 18**
5 830 - 5 850 MHz RADIOLOCATION Amateur Amateur - satellite (space - to - Earth) 5.150 5.453 5.455	RADIOLOCATION Amateur Amateur - satellite (space - to - Earth) **VUT 18**
5 850 - 5 925 MHz FIXED FIXED - SATELLITE (Earth - to - space) MOBILE Radiolocation 5.150	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE Radiolocation **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
5 925 - 6 700 MHz FIXED 5.457 FIXED - SATELLITE (Earth - to - space) 5.457A 5.457B MOBILE 5.457C 5.149 5.440 5.458	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE **VUT 6**
6 700 - 7 075 MHz FIXED FIXED - SATELLITE (Earth - to - space) (space - to - Earth) 5.441 MOBILE 5.458 5.458A 5.458B	FIXED FIXED - SATELLITE (Earth - to - space) (space - to - Earth) MOBILE **VUT 4**
7 075 - 7 145 MHz FIXED MOBILE 5.458 5.459	FIXED MOBILE **VUT 7**
7 145 - 7195 MHz FIXED MOBILE SPACE RESEARCH (deep space) (Earth - to - space) 5.460 5.458 5.459	FIXED MOBILE SPACE RESEARCH (Earth - to - space) **VUT 7**
7 190 - 7 235 MHz FIXED MOBILE SPACE RESEARCH (Earth - to - space) 5.460 EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A 5.460B 5.458 5.459	FIXED MOBILE **VUT 7**
7 235 - 7 250 MHz EARTH EXPLORATION-SATELLITE (Earth-to-space) 5.460A FIXED MOBILE 5.458	FIXED MOBILE **VUT 7**
7 250 - 7 300 MHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE 5.461	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE **VUT 7**
7 300 - 7 450 MHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile 5.461	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile **VUT 7**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
7 450 - 7 550 MHz FIXED FIXED - SATELLITE (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB 5.461A	FIXED FIXED - SATELLITE (space - to - Earth) METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile **VUT 7**
7 550 - 7 750 MHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile MARITIME MOBILE-SATELLITE (space-to-Earth) 5.461AA 5.461AB	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile **VUT 7, VUT 8**
7 750 - 7 900 MHz FIXED METEOROLOGICAL - SATELLITE (space - to - Earth) 5.461B MOBILE except aeronautical mobile	FIXED METEOROLOGICAL - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile **VUT 7, VUT 8**
7 900 - 8 025 MHz FIXED FIXED - SATELLITE (Earth - to - space) MOBILE 5.461	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE **VUT 8**
8 025 - 8 175 MHz EARTH EXPLORATION - SATELLITE (space - to - Earth) FIXED FIXED - SATELLITE (Earth - to - space) MOBILE 5.463 5.462A	EARTH EXPLORATION - SATELLITE (space - to - Earth) FIXED FIXED - SATELLITE (Earth - to - space) MOBILE **VUT 8**
8 175 - 8 215 MHz EARTH EXPLORATION - SATELLITE (space - to - Earth) FIXED FIXED - SATELLITE (Earth - to - space) METEOROLOGICAL - SATELLITE (Earth - to - space) MOBILE 5.463 5.462A	EARTH EXPLORATION - SATELLITE (space - to - Earth) FIXED FIXED - SATELLITE (Earth - to - space) METEOROLOGICAL - SATELLITE (Earth - to - space) MOBILE **VUT 8**
8 215 - 8 400 MHz EARTH EXPLORATION - SATELLITE (space - to - Earth) FIXED FIXED - SATELLITE (Earth - to - space) MOBILE 5.463 5.462A	EARTH EXPLORATION - SATELLITE (space - to - Earth) FIXED FIXED - SATELLITE (Earth - to - space) MOBILE **VUT 8**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
8 400 - 8 500 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space - to - Earth) 5.465 5.466	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space - to - Earth) **VUT 8**
8 500 - 8 550 MHz RADIOLOCATION 5.468 5.469	RADIOLOCATION **VUT 18**
8 550 - 8 650 MHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.468 5.469 5.469A	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) **VUT 18**
8 650 - 8 750 MHz RADIOLOCATION 5.468 5.469	RADIOLOCATION **VUT 18**
8 750 - 8 850 MHz RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470 5.471	RADIOLOCATION AERONAUTICAL RADIONAVIGATION **VUT 18**
8 850 - 9 000 MHz RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473	RADIOLOCATION MARITIME RADIONAVIGATION **VUT 18**
9 000 - 9 200 MHz AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.471 5.473A	AERONAUTICAL RADIONAVIGATION Radiolocation **VUT 18**
9 200 - 9 300 MHz EARTH EXPLORATION - SATELLITE (active) 5.474A 5.474B 5.474C RADIOLOCATION MARITIME RADIONAVIGATION 5.4725.473 5.474 5.474D	RADIOLOCATION MARITIME RADIONAVIGATION **VUT 18**
9 300 - 9 500 MHz EARTH EXPLORATION - SATELLITE (active) RADIONAVIGATION 5.476 RADIOLOCATION SPACE RESEARCH (active) 5.427 5.474 5.475 5.475A 5.475B 5.476A	RADIONAVIGATION Radiolocation **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
9 500 - 9 800 MHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) **VUT 18**
9 800 - 9 900 MHz RADIOLOCATION Earth exploration - satellite (active) Space research (active) Fixed 5.477 5.478 5.478A 5.478B	RADIOLOCATION Earth exploration - satellite (active) Space research (active) Fixed **VUT 18**
9 900 - 10 000 MHz EARTH EXPLORATION - SATELLITE (active) 5.474A 5.474B 5.474C RADIOLOCATION Fixed 5.474D 5.477 5.478 5.479	RADIOLOCATION Fixed **VUT 18**
10 - 10.4 GHz[2] EARTH EXPLORATION - SATELLITE (active) 5.474A 5.474B 5.474C FIXED MOBILE RADIOLOCATION Amateur **5.474D 5.479**	FIXED MOBILE RADIOLOCATION Amateur **VUT 9** **VUT 18**
10.4 - 10.45 GHz FIXED MOBILE RADIOLOCATION Amateur	FIXED MOBILE RADIOLOCATION Amateur **VUT 9** **VUT 18**
10.45 - 10.5 GHz RADIOLOCATION Amateur Amateur - satellite	RADIOLOCATION Amateur Amateur – satellite **VUT 9**
10.5 - 10.55 GHz FIXED MOBILE RADIOLOCATION	FIXED MOBILE RADIOLOCATION **VUT 9**

[2] Note the frequency band is now in GHz

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
10.55 - 10.6 GHz FIXED MOBILE except aeronautical mobile Radiolocation	FIXED MOBILE except aeronautical mobile Radiolocation **VUT 9**
10.6 - 10.68 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482 5.482A	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation **VUT 9**
10.68 - 10.7 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.483	EARTH EXPLORATION – SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
10.7 – 10.95 GHz FIXED FIXED – SATELLITE (space – to – Earth) 5.441 MOBILE except aeronautical mobile	FIXED FIXED – SATELLITE (space – to – Earth) MOBILE except aeronautical mobile **VUT 5**
10.95 – 11.2 GHz FIXED FIXED – SATELLITE (space – to – Earth) 5.484A 5.484B MOBILE except aeronautical mobile	MOBILE except aeronautical mobile FIXED
11.2 – 11.45GHz FIXED FIXED – SATELLITE (space – to – Earth) 5.441 MOBILE except aeronautical mobile	MOBILE except aeronautical mobile FIXED
11.45 – 11.7 GHz FIXED FIXED – SATELLITE (space – to – Earth) 5.484A 5.484B MOBILE except aeronautical mobile	MOBILE except aeronautical mobile FIXED
11.7 - 12.2 GHz FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING - SATELLITE 5.492 5.4875.487A	FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING - SATELLITE **VUT 2, VUT 3, VUT 5**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
12.2 - 12.5 GHz FIXED FIXED - SATELLITE (space - to - Earth) 5.484B MOBILE except aeronautical mobile BROADCASTING 5.484A 5.487	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile BROADCASTING
12.5 - 12.75 GHz FIXED FIXED - SATELLITE (space - to - Earth) 5.484A 5.484B MOBILE except aeronautical mobile BROADCASTING - SATELLITE 5.493	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile BROADCASTING - SATELLITE
12.75 - 13.25 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.441 MOBILE Space research (deep space) (space - to - Earth)	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE Space research (deep space) (space - to - Earth) **VUT 5, VUT 10**
13.25 - 13.4 GHz EARTH EXPLORATION - SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A 5.499	EARTH EXPLORATION - SATELLITE (active) AERONAUTICAL RADIONAVIGATION SPACE RESEARCH (active)
13.4 - 13.65 GHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.499C 5.499D Standard frequency and time signal - satellite (Earth - to - space) 5.499 5.500 5.501 5.501B	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH Standard frequency and time signal - satellite (Earth - to - space)
13.65 - 13.75 GHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard frequency and time signal - satellite (Earth - to - space) 5.501B 5.499 5.500 5.501 5.501B	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH Standard frequency and time signal - satellite (Earth - to - space)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
13.75 - 14 GHz FIXED - SATELLITE (Earth - to - space) 5.484A RADIOLOCATION Earth exploration - satellite Standard frequency and time signal - satellite (Earth - to - space) Space research 5.502 5.503 5.499 5.500 5.501	FIXED - SATELLITE (Earth - to - space) RADIOLOCATION Earth exploration - satellite Standard frequency and time signal - satellite (Earth - to - space) Space research
14 - 14.25 GHz FIXED - SATELLITE (Earth - to - space) 5.457A 5.457B 5.484A 5.484B 5.5065.506B RADIONAVIGATION 5.504 Mobile - satellite (Earth - to - space) 5.504B 5.504C 5.506A Space research 5.504A 5.505	FIXED - SATELLITE (Earth - to - space) RADIONAVIGATION Mobile - satellite (Earth - to - space) Space research
14.25 - 14.3 GHz FIXED - SATELLITE (Earth - to - space) 5.457A 5.457B 5.484A 5.484B 5.506 5.506B RADIONAVIGATION 5.504 Mobile - satellite (Earth - to - space) 5.504B 5.506A5.508A Space research 5.504A 5.505 5.508	FIXED - SATELLITE (Earth - to - space) RADIONAVIGATION Mobile - satellite (Earth - to - space) Space research
14.3 - 14.4 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.457A 5.484A 5.484B 5.506 5.506B MOBILE except aeronautical mobile Mobile - satellite (Earth - to - space) 5.504 B 5.506A 5.509A Radionavigation - satellite 5.504A	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE except aeronautical mobile Mobile - satellite (Earth - to - space) Radionavigation - satellite
14.4 - 14.47 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.457A 5.457B 5.484A 5.484B 5.506 5.506B MOBILE except aeronautical mobile Mobile - satellite (Earth - to - space) 5.504A 5.506A 5.509A Space research (space - to - Earth) 5.504A	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE except aeronautical mobile Mobile - satellite (Earth - to - space) Space research (space - to - Earth)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
14.47 - 14.5 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.457A 5.457B 5.484A 5.506 5.506B MOBILE except aeronautical mobile Mobile - satellite (Earth - to - space) 5.504A 5.506A 5.509A Radio astronomy 5.149 5.504A	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE except aeronautical mobile Mobile - satellite (Earth - to - space) Radio astronomy 5.149 5.504A
14.5 - 14.8 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.509B 5.509C 5.509D 5.509E 5.509F 5.510 MOBILE Space research 5.509G	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE Space research **VUT 3**
14.8 - 15.35 GHz FIXED MOBILE Space research 5.339	FIXED MOBILE Space research
15.35 - 15.4 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.511	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
15.4 - 15.43 GHz RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION	RADIOLOCATION AERONAUTICAL RADIONAVIGATION
15.43 - 15.63 GHz FIXED - SATELLITE (Earth - to - space) 5.511A RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511C	FIXED - SATELLITE (Earth - to - space) RADIOLOCATION AERONAUTICAL RADIONAVIGATION
15.63 - 15.7 GHz RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION	RADIOLOCATION AERONAUTICAL RADIONAVIGATION
15.7 - 16.6 GHz RADIOLOCATION 5.512 5.513	RADIOLOCATION **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
16.6 - 17.1 GHz RADIOLOCATION Space research (deep space) (Earth - to - space) 5.512 5.513	RADIOLOCATION Space research (deep space) (Earth - to - space) **VUT 18**
17.1 - 17.2 GHz RADIOLOCATION 5.512 5.513	RADIOLOCATION **VUT 18**
17.2 - 17.3 GHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513 5.513A	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) **VUT 18**
17.3 - 17.7 GHz FIXED - SATELLITE (Earth - to - space) 5.516 Radiolocation 5.514	FIXED - SATELLITE (Earth - to - space) Radiolocation **VUT 3**
17.7 - 18.1 GHz FIXED FIXED - SATELLITE (space - to - Earth) 5.484A (Earth - to - space) 5.516 MOBILE	FIXED FIXED - SATELLITE (space - to - Earth) (Earth - to - space) MOBILE **VUT 3, VUT 11**
18.1 - 18.4 GHz FIXED FIXED - SATELLITE (space - to - Earth) 5.484A 5.516B (Earth - to - space) 5.520 MOBILE 5.519 5.521	FIXED FIXED - SATELLITE (space - to - Earth) (Earth - to - space) MOBILE **VUT 11**
18.4 - 18.6 GHz FIXED FIXED - SATELLITE (space - to - Earth) 5.484A 5.516B MOBILE	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE **VUT 11**
18.6 - 18.8 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED FIXED - SATELLITE (space - to - Earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A	EARTH EXPLORATION - SATELLITE (passive) FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile Space research (passive) **VUT 11**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
18.8 - 19.3 GHz FIXED FIXED - SATELLITE (space - to - Earth) 5.516B 5.523A MOBILE	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE **VUT 11**
19.3 - 19.7 GHz FIXED FIXED - SATELLITE (space - to - Earth) (Earth - to - space) 5.523B 5.523C 5.523D 5.523E MOBILE	FIXED FIXED - SATELLITE (space - to - Earth) (Earth - to - space MOBILE **VUT 11**
19.7 - 20.1 GHz FIXED - SATELLITE (space - to - Earth) 5.484A 5.484B 5.516B 5.527A Mobile - satellite (space - to - Earth) 5.524	FIXED - SATELLITE (space - to - Earth) Mobile - satellite (space - to - Earth)
20.1 - 20.2 GHz FIXED - SATELLITE (space - to - Earth) 5.484A 5.484B 5.516B 5.527A MOBILE - SATELLITE (space - to - Earth) 5.524 5.525 5.526 5.527 5.528	FIXED - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth)
20.2 - 21.2 GHz FIXED - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) Standard frequency and time signal - satellite (space - to - Earth) 5.524	FIXED - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) Standard frequency and time signal - satellite (space - to - Earth)
21.2 - 21.4 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) **VUT 12**
21.4 - 22 GHz FIXED MOBILE BROADCASTING - SATELLITE 5.208B 5.530A 5.530B 5.530C 5.530D 5.531	FIXED MOBILE BROADCASTING - SATELLITE **VUT 12**
22 - 22.21 GHz FIXED MOBILE except aeronautical mobile 5.149	FIXED MOBILE except aeronautical mobile **VUT 12**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
22.21 - 22.5 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) **VUT 12**
22.5 - 22.55 GHz FIXED MOBILE	FIXED MOBILE **VUT 12**
22.55 - 23.15 GHz FIXED INTER - SATELLITE 5.338A MOBILE SPACE RESEARCH (Earth - to - space) 5.532A 5.149	FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (Earth - to - space) **VUT 12**
23.15 - 23.55 GHz FIXED INTER - SATELLITE 5.338A MOBILE	FIXED INTER - SATELLITE MOBILE **VUT 12**
23.55 - 23.6 GHz FIXED MOBILE	FIXED MOBILE **VUT 12**
23.6 - 24 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
24 - 24.05 GHz AMATEUR AMATEUR - SATELLITE 5.150	AMATEUR AMATEUR – SATELLITE **VUT 18**
24.05 - 24.25 GHz RADIOLOCATION Amateur Earth exploration - satellite (active) 5.150	RADIOLOCATION Amateur Earth exploration - satellite (active) **VUT 18**
24.25 - 24.45 GHz RADIONAVIGATION FIXED MOBILE	RADIONAVIGATION FIXED MOBILE

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
24.45 - 24.65 GHz FIXED INTER - SATELLITE MOBILE RADIONAVIGATION 5.533	FIXED INTER - SATELLITE MOBILE RADIONAVIGATION **VUT 13**
24.65 - 24.75 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.532B INTER - SATELLITE MOBILE 5.533	FIXED FIXED - SATELLITE (Earth - to - space) INTER - SATELLITE MOBILE **VUT 13**
24.75 - 25.25 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.535 MOBILE	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE **VUT 13**
25.25 - 25.5 GHz FIXED INTER - SATELLITE 5.536 MOBILE Standard frequency and time signal - satellite (Earth - to - space)	FIXED INTER - SATELLITE MOBILE Standard frequency and time signal - satellite (Earth - to - space) **VUT 13**
25.5 - 27 GHz EARTH EXPLORATION - SATELLITE (space - to Earth) 5.536B FIXED INTER - SATELLITE 5.536 MOBILE SPACE RESEARCH (space - to - Earth) 5.536C Standard frequency and time signal - satellite (Earth - to - space) 5.536A	EARTH EXPLORATION - SATELLITE (space - to Earth) FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (space - to - Earth) Standard frequency and time signal - satellite (Earth - to - space) **VUT 13**
27 - 27.5 GHz FIXED FIXED - SATELLITE (Earth - to - space) INTER - SATELLITE 5.536 5.537 MOBILE	FIXED FIXED - SATELLITE (Earth - to - space) INTER - SATELLITE MOBILE **VUT 14**
27.5 - 28.5 GHz FIXED 5.537A FIXED - SATELLITE (Earth - to - space) 5.484A 5.516B 5.539 MOBILE 5.538 5.540	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE **VUT 14**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
28.5 - 29.1 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.484A 5.516B 5.523A 5.539 MOBILE Earth exploration - satellite (Earth - to - space) 5.541 5.540	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE Earth exploration - satellite (Earth - to - space) **VUT 14**
29.1 - 29.5 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth exploration - satellite (Earth - to - space) 5.541 5.540	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE Earth exploration - satellite (Earth - to - space) **VUT 14**
29.5 - 29.9 GHz FIXED - SATELLITE (Earth - to - space) 5.484A 5.484B 5.516B 5.527A 5.539 Earth exploration - satellite (Earth - to - space) 5.541 Mobile - satellite (Earth - to - space) 5.540 5.542	FIXED - SATELLITE (Earth - to - space) Earth exploration - satellite (Earth - to - space) Mobile - satellite (Earth - to - space)
29.9 - 30 GHz FIXED - SATELLITE (Earth - to - space) 5.484A 5.484B 5.516B 5.527A 5.539 MOBILE - SATELLITE (Earth - to - space) Earth exploration - satellite (Earth - to - space) 5.541 5.543 5.525 5.526 5.527 5.538 5.540 5.542	FIXED - SATELLITE (Earth - to - space) MOBILE - SATELLITE (Earth - to - space) Earth exploration - satellite (Earth - to - space)
30 - 31 GHz FIXED - SATELLITE (Earth - to - space) 5.338A MOBILE - SATELLITE (Earth - to - space) Standard frequency and time signal - satellite (space - to - Earth) 5.542	FIXED - SATELLITE (Earth - to - space) MOBILE - SATELLITE (Earth - to - space) Standard frequency and time signal - satellite (space - to - Earth) **VUT 15**
31 - 31.3 GHz FIXED 5.338A MOBILE Standard frequency and time signal - satellite (space - to - Earth) Space research 5.544 5.545 5.149	FIXED MOBILE Standard frequency and time signal - satellite (space - to - Earth) Space research **VUT 15**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
31.3 - 31.5 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
31.5 - 31.8 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile
31.8 - 32 GHz FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space - to - Earth) 5.547 5.547B 5.548	FIXED RADIONAVIGATION SPACE RESEARCH (deep space) (space - to - Earth)
32 - 32.3 GHz FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space - to - Earth) 5.547 5.547C 5.548	FIXED RADIONAVIGATION SPACE RESEARCH (deep space) (space - to - Earth)
32.3 - 33 GHz FIXED 5.547A INTER - SATELLITE RADIONAVIGATION 5.547 5.547D 5.548	FIXED INTER - SATELLITE RADIONAVIGATION
33 - 33.4 GHz FIXED 5.547A RADIONAVIGATION 5.547 5.547E	FIXED RADIONAVIGATION
33.4 - 34.2 GHz RADIOLOCATION 5.549	RADIOLOCATION **VUT 18**
34.2 - 34.7 GHz RADIOLOCATION SPACE RESEARCH (deep space) (Earth - to - space) 5.549	RADIOLOCATION SPACE RESEARCH (deep space) (Earth - to - space) **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
34.7 - 35.2 GHz RADIOLOCATION Space research 5.550 5.549	RADIOLOCATION Space research **VUT 18**
35.2 - 35.5 GHz METEOROLOGICAL AIDS RADIOLOCATION 5.549	METEOROLOGICAL AIDS RADIOLOCATION **VUT 18**
35.5 - 36 GHz METEOROLOGICAL AIDS EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.549 5.549A	METEOROLOGICAL AIDS EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) **VUT 18**
36 - 37 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149 5.550A	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)
37 - 37.5 GHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space - to - Earth) 5.547	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space - to - Earth) **VUT 16**
37.5 - 38 GHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space - to - Earth) Earth exploration - satellite (space - to - Earth) 5.547	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space - to - Earth) Earth exploration - satellite (space - to - Earth) **VUT 16**
38 - 39.5 GHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE Earth exploration - satellite (space - to - Earth) 5.547	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE Earth exploration - satellite (space - to - Earth) **VUT 16**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
39.5 - 40 GHz FIXED FIXED - SATELLITE (space - to - Earth) 5.516B MOBILE MOBILE - SATELLITE (space - to - Earth) Earth exploration - satellite (space - to - Earth) 5.547	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE MOBILE - SATELLITE (space - to - Earth) Earth exploration - satellite (space - to - Earth)
40 - 40.5 GHz EARTH EXPLORATION - SATELLITE (Earth - to - space) FIXED FIXED - SATELLITE (space - to - Earth) 5.516B MOBILE MOBILE - SATELLITE (space - to - Earth) SPACE RESEARCH (Earth - to - space) Earth exploration - satellite (space - to - Earth)	EARTH EXPLORATION - SATELLITE (Earth - to - space) FIXED FIXED - SATELLITE (space - to - Earth) MOBILE MOBILE - SATELLITE (space - to - Earth) SPACE RESEARCH (Earth - to - space) Earth exploration - satellite (space - to - Earth)
40.5 - 41 GHz FIXED FIXED - SATELLITE (space - to - Earth) BROADCASTING BROADCASTING - SATELLITE Mobile 5.547	FIXED FIXED - SATELLITE (space - to - Earth) BROADCASTING BROADCASTING - SATELLITE Mobile
41 - 42.5 GHz FIXED FIXED - SATELLITE (space - to - Earth) 5.516B BROADCASTING BROADCASTING - SATELLITE Mobile 5.547 5.551F 5.551H 5.551I	FIXED FIXED - SATELLITE (space - to - Earth) BROADCASTING BROADCASTING - SATELLITE Mobile
42.5 - 43.5 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.547	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE except aeronautical mobile RADIO ASTRONOMY
43.5 - 47 GHz MOBILE 5.553 MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE 5.554	MOBILE MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
47 - 47.2 GHz AMATEUR AMATEUR - SATELLITE	AMATEUR AMATEUR - SATELLITE
47.2 - 47.5 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.552 MOBILE 5.552A	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE
47.5 - 47.9 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.552 MOBILE	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE
47.9 - 48.2 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.552 MOBILE 5.552A	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE
48.2 - 50.2 GHz FIXED 5.338A FIXED - SATELLITE (Earth - to - space) 5.516B 5.338A 5.552 MOBILE 5.149 5.340 5.555	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE
50.2 - 50.4 GHz EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive)
50.4 - 51.4 GHz FIXED FIXED - SATELLITE (Earth - to - space) 5.338A MOBILE Mobile - satellite (Earth - to - space)	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE Mobile - satellite (Earth - to - space)
51.4 - 52.6 GHz FIXED 5.338A MOBILE 5.547 5.556	FIXED MOBILE
52.6 - 54.25 GHz EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
54.25 - 55.78 GHz EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE 5.556A SPACE RESEARCH (passive) 5.556B	EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE SPACE RESEARCH (passive)
55.78 - 56.9 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED 5.557A INTER - SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (passive)
56.9 - 57 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (passive)
57 - 58.2 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE MOBILE SPACE RESEARCH (passive) **VUT 18**
58.2 - 59 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) **VUT 18**
59 - 59.3 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	EARTH EXPLORATION - SATELLITE (passive) FIXED INTER - SATELLITE MOBILE RADIOLOCATION SPACE RESEARCH (passive) **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
59.3 - 64 GHz FIXED INTER - SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	FIXED INTER - SATELLITE MOBILE RADIOLOCATION **VUT 18**
64 - 65 GHz FIXED INTER - SATELLITE MOBILE except aeronautical mobile 5.547 5.556	FIXED INTER - SATELLITE MOBILE except aeronautical mobile
65 - 66 GHz EARTH EXPLORATION - SATELLITE FIXED INTER - SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	EARTH EXPLORATION - SATELLITE FIXED INTER - SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH
66 - 71 GHz INTER - SATELLITE MOBILE 5.553 5.558 MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE 5.554	INTER - SATELLITE MOBILE MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE
71 - 74 GHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE MOBILE - SATELLITE (space - to - Earth)	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE MOBILE - SATELLITE (space - to - Earth)
74 - 76 GHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE ROADCASTING BROADCASTING - SATELLITE Space research (space - to - Earth) 5.561	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE ROADCASTING BROADCASTING - SATELLITE Space research (space - to - Earth)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	*Allocation in Republic of Vanuatu* *(All footnotes mentioned in left hand side column apply respectively)*
76 - 77.5 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur - satellite Space research (space - to - Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur - satellite Space research (space - to - Earth) **VUT 18**
77.5 - 78 GHz AMATEUR AMATEUR – SATELLITE RADIOLOCATION 5.559B Radio astronomy Space research (space - to - Earth) 5.149	AMATEUR AMATEUR - SATELLITE Radio astronomy Space research (space - to - Earth)
78 - 79 GHz RADIOLOCATION Amateur Amateur - satellite Radio astronomy Space research (space - to - Earth) 5.149 5.560	RADIOLOCATION Amateur Amateur - satellite Radio astronomy Space research (space - to - Earth)
79 - 81 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur - satellite Space research (space - to - Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur - satellite Space research (space - to - Earth)
81 - 84 GHz FIXED 5.338A FIXED - SATELLITE (Earth - to - space) MOBILE MOBILE - SATELLITE (Earth - to - space) RADIO ASTRONOMY Space research (space - to - Earth) 5.149 5.561A	FIXED 5.338A FIXED - SATELLITE (Earth - to - space) MOBILE MOBILE - SATELLITE (Earth - to - space) RADIO ASTRONOMY Space research (space - to - Earth)
84 - 86 GHz FIXED 5.338A FIXED - SATELLITE (Earth - to - space) 5.561B MOBILE RADIO ASTRONOMY 5.149	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE RADIO ASTRONOMY

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
86 - 92 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
92 - 94 GHz FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION
94 - 94.1 GHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562 5.562A	EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy
94.1 - 95 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION
95 - 100 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION - SATELLITE 5.149 5.554	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION - SATELLITE
100 - 102 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
102 - 105 GHz FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
105 - 109.5 GHz FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)
109.5 - 111.8 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
111.8 - 114.25 GHz FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)
114.25 - 116 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
116 - 119.98 GHz EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE SPACE RESEARCH (passive)
119.98 - 122.25 GHz EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE 5.562C SPACE RESEARCH (passive) 5.138 5.341	EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE SPACE RESEARCH (passive) **VUT 18**
122.25 - 123 GHz FIXED INTER - SATELLITE MOBILE 5.558 Amateur 5.138	FIXED INTER - SATELLITE MOBILE Amateur **VUT 18**

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
123 - 130 GHz FIXED - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) RADIONAVIGATION RADIONAVIGATION - SATELLITE Radio astronomy 5.562D 5.149 5.554	FIXED - SATELLITE (space - to - Earth) MOBILE - SATELLITE (space - to - Earth) RADIONAVIGATION RADIONAVIGATION - SATELLITE Radio astronomy
130 - 134 GHz EARTH EXPLORATION - SATELLITE (active) 5.562E FIXED INTER - SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	EARTH EXPLORATION - SATELLITE (active) FIXED INTER - SATELLITE MOBILE RADIO ASTRONOMY
134 - 136 GHz AMATEUR AMATEUR - SATELLITE Radio astronomy	AMATEUR AMATEUR - SATELLITE Radio astronomy
136 - 141 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur - satellite 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur - satellite
141 - 148.5 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION
148.5 - 151.5 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340
151.5 - 155.5 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
155.5 - 158.5 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562F 5.562G	EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)
158.5 - 164 GHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE MOBILE - SATELLITE (space - to - Earth)	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE MOBILE - SATELLITE (space - to - Earth)
164 - 167 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
167 - 174.5 GHz FIXED FIXED - SATELLITE (space - to - Earth) INTER - SATELLITE MOBILE 5.558 5.149 5.562D	FIXED FIXED - SATELLITE (space - to - Earth) INTER - SATELLITE MOBILE
174.5 - 174.8 GHz FIXED INTER - SATELLITE MOBILE 5.558	FIXED INTER - SATELLITE MOBILE
174.8 - 182 GHz EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE 5.562H SPACE RESEARCH (passive)	EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE SPACE RESEARCH (passive)
182 - 185 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
185 - 190 GHz EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE 5.562H SPACE RESEARCH (passive)	EARTH EXPLORATION - SATELLITE (passive) INTER - SATELLITE SPACE RESEARCH (passive)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
190 - 191.8 GHz EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) SPACE RESEARCH (passive)
191.8 - 200 GHz FIXED INTER - SATELLITE MOBILE 5.558 MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE 5.149 5.341 5.554	FIXED INTER - SATELLITE MOBILE MOBILE - SATELLITE RADIONAVIGATION RADIONAVIGATION - SATELLITE
200 - 209 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341 5.563A	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
209 - 217 GHz FIXED FIXED - SATELLITE (Earth - to - space) MOBILE RADIO ASTRONOMY 5.149 5.341	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE RADIO ASTRONOMY
217 - 226 GHz FIXED FIXED - SATELLITE (Earth - to - space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive)
226 - 231.5 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
231.5 - 232 GHz FIXED MOBILE Radiolocation	FIXED MOBILE Radiolocation

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
232 - 235 GHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE Radiolocation	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE Radiolocation
235 - 238 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED - SATELLITE (space - to - Earth) SPACE RESEARCH (passive) 5.563A 5.563B	EARTH EXPLORATION - SATELLITE (passive) FIXED - SATELLITE (space - to - Earth) SPACE RESEARCH (passive)
238 - 240 GHz FIXED FIXED - SATELLITE (space - to - Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION - SATELLITE	FIXED FIXED - SATELLITE (space - to - Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION - SATELLITE
240 - 241 GHz FIXED MOBILE RADIOLOCATION	FIXED MOBILE RADIOLOCATION
241 - 248 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur - satellite 5.138 5.149	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur - satellite **VUT 18**
248 - 250 GHz AMATEUR AMATEUR - SATELLITE Radio astronomy 5.149	AMATEUR AMATEUR - SATELLITE Radio astronomy
250 - 252 GHz EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563A	EARTH EXPLORATION - SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Frequency bands *RR Region 3 Allocation with relevant footnotes*	***Allocation in Republic of Vanuatu*** *(All footnotes mentioned in left hand side column apply respectively)*
252 - 265 GHz FIXED MOBILE MOBILE - SATELLITE (Earth - to - space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION - SATELLITE 5.149 5.554	FIXED MOBILE MOBILE - SATELLITE (Earth - to - space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION - SATELLITE
265 - 275 GHz FIXED FIXED - SATELLITE (Earth - to - space) MOBILE RADIO ASTRONOMY 5.149 5.563A	FIXED FIXED - SATELLITE (Earth - to - space) MOBILE RADIO ASTRONOMY
275 – 3000 GHz (Not allocated) 5.565	(Not allocated)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-B: Footnotes to the National Table of Frequency Allocations

Vanuatu Footnotes

VUT 1

The frequency allotted to Republic of Vanuatu for use exclusive use for aeronautical mobile (OR) service within the area of Republic of Vanuatu are as follows:

S. No.	Carrier (reference) Frequency (in kHz)
1	3 032
2	3 038
3	3 047
4	3 131
5	4 724
6	4 733
7	5 687
8	5 726
9	6 688
10	6 739
11	6 754
12	9 019
13	11 220
14	13 236
15	15 076
16	17 994

Note:

1. For use of the carrier (reference) frequencies 3 023 kHz and 5 680 kHz which are intended for worldwide common use, see No. 26/3.4**.**
2. A bandwidth of up to a maximum of 2.8 kHz, situated wholly within the frequency channel concerned should be utilizable.
3. The frequencies should only be used for Telephony (J3E, SSB, suppressed carrier) and Telegraphy (including Automatic Data transmission) {A1A, A1B, F1B; (A, H)2(A, B); (R, J)2(A, B, D); J (7,9) (B, D, X)}
4. All other operational characteristics include the Power limits of emission and limits to unwanted emission shall be in accordance with the Appendix 26 of the Radio Regulations 2012

VUT 2

Allotment for the BSS in the frequency bands 11.7 - 12.2 GHz for Republic of Vanuatu as per RR Appendix 30. Details of the allotment are as follows:

1. **General Details**

Beam ID :	**VUT12800**
Nominal Orbital Position	140.00°E
Longitude of Boresight	168.00°
Latitude of Boresight	-16.40°
Major axis (Space Station Antenna)	1.52°

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

	Minor axis (Space Station Antenna)	0.68°
	Orientation (Space Station Antenna)	87.00
	Space station: antenna gain / code	44.30 (co - polar) / R13TSS
	Earth station: antenna gain / code	35.50 / MODRES
	Polarization	CL
	E.I.R.P	57.8
	Designation of Emission	27M0G7W

2. **Minimum Equivalent Protection Margin (EPM)** *(as per Table 6B of the Appendix 30 of the RR)*
   - 4.3 for channels 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 and 23
   - 7.1 for channel 1

Note:
Requirements of article 9 and 11 of RR to be fulfilled

VUT 3

Allotments for the BSS Feeder uplink in bands 11.7-12.2 GHz, 14.5-14.8 GHz and 17.3-18.1 GHz for Republic of Vanuatu as per RR Appendix 30A Details of the allotment are as follows:

1. **General Details**

Beam ID :	**VUT12801**
Nominal Orbital Position	140.00°E
Longitude of Boresight	168.00°
Latitude of Boresight	-16.40°
Major axis (Space Station Antenna)	1.52°
Minor axis (Space Station Antenna)	0.68°
Orientation (Space Station Antenna)	87.00
Space station: antenna gain / code	44.30 (co - polar) / MODRSS
Earth station: antenna gain / code	57.00 / MODTES
Polarization	CL
E.I.R.P	84.0
Designation of Emission	27M0G7W

Beam ID :	**VUT12802**
Nominal Orbital Position	140.00°E
Longitude of Boresight	168.00°
Latitude of Boresight	-16.40°
Major axis (Space Station Antenna)	1.52°
Minor axis (Space Station Antenna)	0.68°
Orientation (Space Station Antenna)	87.00
Space station: antenna gain / code	44.30 (co - polar) / MODRSS

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Earth station: antenna gain / code	57.00 / MODTES
Polarization	CR
E.I.R.P	84.0
Designation of Emission	27M0G7W

2. **Minimum Equivalent Protection Margin (EPM)** *(as per Table 3B2 of the Appendix 30A of the RR)*

Beam ID: VUT12801

- 8.9 for channels 29, 31, 33, 35, 37 and 39

Beam ID: VUT12802

- 8.9 for channels 30, 32, 34, 36 and 38
- 10.4 for channel 40

Note:
Requirements of article 9 and 11 of RR to be fulfilled

VUT 4

Allotment plan for Fixed-satellite service in the frequency bands 4 500-4 800 MHz and 6 725-7 025 MHz for REPUBLIC OF VANUATU as per RR 2012 Appendix 30B. Details are as follows:

Allotment Name: VUT00000

Frequency Bands:	**4500 – 4800 MHz (Space to Earth)** **6725 – 7025 MHz (Earth to Space)**
Nominal Orbital Position	150.7°E
Longitude of Boresight	168.40°
Latitude of Boresight	-17.20°
Major axis of the elliptical cross - section half - power beam	1.60°
Minor axis of the elliptical cross - section half - power beam	1.60°
Orientation of the ellipse	90.00
Earth station E.I.R.P. density	- 9.6 dB (W/Hz)
Satellite E.I.R.P. density	- 40.3 dB (W/Hz)

VUT 5

Allotment plan for Fixed-satellite service in the frequency bands 10.70-10.95 GHz, 11.2-11.45 GHz and 12.75-13.25 GHz for REPUBLIC OF VANUATU as per RR 2012 Appendix 30B. Details of the are as follows:

Allotment Name: VUT00000

Frequency Bands:	**10.70 – 10.95 GHz (Space to Earth)** **11.20 – 11.45 GHz (Space to Earth)** **12.75 – 13.25 GHz (Earth to Space)**
Nominal Orbital Position	150.7°E

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

	Longitude of Boresight	168.40°
	Latitude of Boresight	-17.20°
	Major axis of the elliptical cross - section half - power beam	1.20°
	Minor axis of the elliptical cross - section half - power beam	1.00°
	Orientation of the ellipse	122.00
	Earth station E.I.R.P. density	- 2.4 dB (W/Hz)
	Satellite E.I.R.P. density	- 23.1 dB (W/Hz)
VUT 6	Assignments to High capacity Fixed wireless systems within band 5925 – 6425 MHz in accordance with ITU - R recommendation F.383 - 9	
VUT 7	Assignments to Fixed wireless systems within band 7110 – 7900 MHz in accordance with ITU - R recommendation F.385 - 10	
VUT 8	Assignments to Fixed wireless systems within band 7725 – 8500 MHz in accordance with ITU - R recommendation F.386 - 9	
VUT 9	Assignments to Fixed wireless systems within band 10.0 – 10.68 MHz in accordance with ITU - R Recommendation F.747 - 1. Block allocation to the Fixed services also catered for within band 10.15 – 10.3GHz and 10.5 – 10.65GHz in accordance with ITU - R recommendation F.1568 - 1	
VUT 10	Assignments to Fixed wireless systems within band 12.75 – 13.25 GHz in accordance with ITU - R recommendation F.497 - 7	
VUT 11	Assignments to Fixed wireless systems within band 17.70 – 19.70 GHz in accordance with ITU - R recommendation F.595 - 10	
VUT 12	Assignments to Fixed wireless systems within band 21.20 – 23.60 GHz in accordance with ITU - R recommendation F.637 - 4	
VUT 13	Assignments to Fixed wireless systems within band 24.50 – 26.50 GHz in accordance with ITU - R recommendation F.748 - 4	
VUT 14	Assignments to Fixed wireless systems within band 27.50 – 29.50 GHz in accordance with ITU - R recommendation F.748 - 4	
VUT 15	Assignments to Fixed wireless systems within band 31.00 – 31.30 GHz in accordance with ITU - R recommendation F.746 - 10 (Annex - 6)	
VUT 16	Assignments to Fixed wireless systems within band 37.00 – 39.50 GHz in accordance with ITU - R recommendation F.749 – 2	
VUT 17	Allocation for Citizen Band as per Schedule (IV) of the RADIO APPARATUS LICENSE AND SPECTRUM LICENSE (FEES) REGULATION ORDER NO. 153 OF 2012 and associated operating conditions and equipment characteristics	

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

<table>
<tr><td>VUT 18</td><td>Allocation for SRDs as per Schedule (I) of the RADIO APPARATUS LICENSE AND SPECTRUM LICENSE (FEES) REGULATION ORDER NO. 153 OF 2012 and associated operating conditions and equipment characteristics</td></tr>
<tr><td>VUT 19</td><td>Allocation for Cordless as per Schedule (IV) of the RADIO APPARATUS LICENSE AND SPECTRUM LICENSE (FEES) REGULATION ORDER NO. 153 OF 2012 and associated operating conditions and equipment characteristics</td></tr>
<tr><td>VUT 20</td><td>Please refer to Decision 1 of 2014 of TRR regarding the planning of 700 MHz band</td></tr>
<tr><td>VUT 21</td><td>Assignments for wireless requirements of Taxi services would be done from band 68.0 – 74.8 MHz, 75.2 – 87.0 MHz, 150.05 – 156.0 MHz and 163.0 – 174 MHz</td></tr>
<tr><td>VUT 22</td><td>Bands identified by ITU for IMT are:
<table>
<tr><th>Band
(MHz)</th><th>Footnotes identifying the
band for IMT</th></tr>
<tr><td>450-470</td><td>5.286AA</td></tr>
<tr><td>698-960</td><td>5.313A, 5.317A</td></tr>
<tr><td>1 710-2 025</td><td>5.384A, 5.388</td></tr>
<tr><td>2 110-2 200</td><td>5.388</td></tr>
<tr><td>2 300-2 400</td><td>5.384A</td></tr>
<tr><td>2 500-2 690</td><td>5.384A</td></tr>
<tr><td>3 400-3 600</td><td>5.430A, 5.432A, 5.432B, 5.433A</td></tr>
</table>
RR 11.26A applies for deployment using HAPS</td></tr>
</table>

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

WRC 2015 Footnotes to International Frequency Allocation

5.53 Administrations authorizing the use of frequencies below 8.3 kHz shall ensure that no harmful interference is caused to services to which the bands above 8.3 kHz are allocated. (WRC-12)

5.54 Administrations conducting scientific research using frequencies below 8.3 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference. (WRC-12)

5.54A Use of the 8.3-11.3 kHz frequency band by stations in the meteorological aids service is limited to passive use only. In the band 9-11.3 kHz, meteorological aids stations shall not claim protection from stations of the radionavigation service submitted for notification to the Bureau prior to 1 January 2013. For sharing between stations of the meteorological aids service and stations in the radionavigation service submitted for notification after this date, the most recent version of Recommendation ITU-R RS.1881 should be applied. (WRC-12)

5.54B Additional allocation: in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, the Russian Federation, Iran (Islamic Republic of), Iraq, Kuwait, Lebanon, Morocco, Qatar, the Syrian Arab Republic, Sudan and Tunisia, the frequency band 8.3-9 kHz is also allocated to the radionavigation, fixed and mobile services on a primary basis. (WRC-15)

5.54C Additional allocation: in China, the frequency band 8.3-9 kHz is also allocated to the maritime radionavigation and maritime mobile services on a primary basis. (WRC-12)

5.55 Additional allocation: in Armenia, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the frequency band 14-17 kHz is also allocated to the radionavigation service on a primary basis. (WRC-15)

5.56 The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-12)

5.57 The use of the bands 14-19.95 kHz, 20.05-70 kHz and 70-90 kHz (72-84 kHz and 86-90 kHz in Region 1) by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorized subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.

5.58 Additional allocation: in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the band 67-70 kHz is also allocated to the radionavigation service on a primary basis. (WRC-2000)

5.59 Different category of service: in Bangladesh and Pakistan, the allocation of the bands 70-72 kHz and 84-86 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33). (WRC-2000)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.60 In the bands 70-90 kHz (70-86 kHz in Region 1) and 110-130 kHz (112-130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated.

5.61 In Region 2, the establishment and operation of stations in the maritime radionavigation service in the bands 70-90 kHz and 110-130 kHz shall be subject to agreement obtained under No. 9.21 with administrations whose services, operating in accordance with the Table, may be affected. However, stations of the fixed, maritime mobile and radiolocation services shall not cause harmful interference to stations in the maritime radionavigation service established under such agreements.

5.62 Administrations which operate stations in the radionavigation service in the band 90-110 kHz are urged to coordinate technical and operating characteristics in such a way as to avoid harmful interference to the services provided by these stations.

5.63 (SUP - WRC-97)

5.64 Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.

5.65 Different category of service: in Bangladesh, the allocation of the bands 112-117.6 kHz and 126-129 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33). (WRC-2000)

5.66 Different category of service: in Germany, the allocation of the band 115-117.6 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33) and to the radionavigation service on a secondary basis (see No. 5.32).

5.67 Additional allocation: in Mongolia, Kyrgyzstan and Turkmenistan, the band 130-148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate. (WRC-07)

5.67A Stations in the amateur service using frequencies in the band 135.7-137.8 kHz shall not exceed a maximum radiated power of 1 W (e.i.r.p.) and shall not cause harmful interference to stations of the radionavigation service operating in countries listed in No. 5.67. (WRC-07)

5.67B The use of the band 135.7-137.8 kHz in Algeria, Egypt, Iran (Islamic Republic of), Iraq, Lebanon, Syrian Arab Republic, Sudan, South Sudan and Tunisia is limited to the fixed and maritime mobile services. The amateur service shall not be used in the above-mentioned countries in the band 135.7-137.8 kHz, and this should be taken into account by the countries authorizing such use. (WRC-12)

5.68 Alternative allocation: in Congo (Rep. of the), the Dem. Rep. of the Congo and South Africa, the frequency band 160-200 kHz is allocated to the fixed service on a primary basis. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.69 Additional allocation: in Somalia, the band 200-255 kHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.70 Alternative allocation: in Angola, Botswana, Burundi, the Central African Rep., Congo (Rep. of the), Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, South Africa, Swaziland, Tanzania, Chad, Zambia and Zimbabwe, the band 200-283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)

5.71 Alternative allocation: in Tunisia, the band 255-283.5 kHz is allocated to the broadcasting service on a primary basis. 5.72 (SUP - WRC-12)

5.73 The band 285-325 kHz (283.5-325 kHz in Region 1) in the maritime radionavigation service may be used to transmit supplementary navigational information using narrow-band techniques, on condition that no harmful interference is caused to radio beacon stations operating in the radionavigation service. (WRC-97)

5.74 Additional Allocation: in Region 1, the frequency band 285.3-285.7 kHz is also allocated to the maritime radionavigation service (other than radio beacons) on a primary basis.

5.75 Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Moldova, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Romania, the allocation of the band 315-325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned. (WRC-07)

5.76 The frequency 410 kHz is designated for radio direction-finding in the maritime radionavigation service. The other radionavigation services to which the band 405-415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5-413.5 kHz.

5.77 Different category of service: in Australia, China, the French overseas communities of Region 3, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the frequency band 415-495 kHz to the aeronautical radionavigation service is on a primary basis. In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Latvia, Uzbekistan and Kyrgyzstan, the allocation of the frequency band 435-495 kHz to the aeronautical radionavigation service is on a primary basis. Administrations in all the aforementioned countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the frequency band 435-495 kHz do not cause interference to reception by coast stations of transmissions from ship stations on frequencies designated for ship stations on a worldwide basis. (WRC-12)

5.78 Different category of service: in Cuba, the United States of America and Mexico, the allocation of the band 415-435 kHz to the aeronautical radionavigation service is on a primary basis.

5.79 The use of the bands 415-495 kHz and 505-526.5 kHz (505-510 kHz in Region 2) by the maritime mobile service is limited to radiotelegraphy.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization (IMO) (see Resolution 339 (Rev.WRC-07)). (WRC-07)

5.80 In Region 2, the use of the band 435-495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission.

5.80A The maximum equivalent isotropically radiated power (e.i.r.p.) of stations in the amateur service using frequencies in the band 472-479 kHz shall not exceed 1 W. Administrations may increase this limit of e.i.r.p. to 5 W in portions of their territory which are at a distance of over 800 km from the borders of Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iran (Islamic Republic of), Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia, Ukraine and Yemen. In this frequency band, stations in the amateur service shall not cause harmful interference to, or claim protection from, stations of the aeronautical radionavigation service. (WRC-12)

5.80B The use of the frequency band 472-479 kHz in Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia and Yemen is limited to the maritime mobile and aeronautical radionavigation services. The amateur service shall not be used in the above-mentioned countries in this frequency band, and this should be taken into account by the countries authorizing such use. (WRC-12)

5.81 (SUP - WRC-2000)

5.82 In the maritime mobile service, the frequency 490 kHz is to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles 31 and 52. In using the frequency band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. In using the frequency band 472-479 kHz for the amateur service, administrations shall ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-12)

5.82A (SUP - WRC-12)

5.82B (SUP - WRC-12)

5.83 Not used.

5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles 31 and 52. (WRC-07)

5.85 Not used.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.86 In Region 2, in the band 525-535 kHz the carrier power of broadcasting stations shall not exceed 1 kW during the day and 250 W at night.
5.87 Additional allocation: in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Niger and Swaziland, the band 526.5-535 kHz is also allocated to the mobile service on a secondary basis. (WRC-12)

5.87A Additional allocation: in Uzbekistan, the band 526.5-1 606.5 kHz is also allocated to the radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radio beacons in operation on 27 October 1997 until the end of their lifetime. (WRC-97)

5.88 Additional allocation: in China, the band 526.5-535 kHz is also allocated to the aeronautical radionavigation service on a secondary basis.

5.89 In Region 2, the use of the band 1 605-1 705 kHz by stations of the broadcasting service is subject to the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988). The examination of frequency assignments to stations of the fixed and mobile services in the band 1 625-1 705 kHz shall take account of the allotments appearing in the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988).

5.90 In the band 1 605-1 705 kHz, in cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 shall be limited to that provided by ground-wave propagation.

5.91 Additional allocation: in the Philippines and Sri Lanka, the band 1 606.5-1 705 kHz is also allocated to the broadcasting service on a secondary basis. (WRC-97)

5.92 Some countries of Region 1 use radiodetermination systems in the bands 1 606.5-1 625 kHz, 1 635-1 800 kHz, 1 850-2 160 kHz, 2 194-2 300 kHz, 2 502-2 850 kHz and 3 500-3 800 kHz, subject to agreement obtained under No. 9.21. The radiated mean power of these stations shall not exceed 50W. 5.93 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, Tajikistan, Chad, Turkmenistan and Ukraine, the frequency bands 1 625-1 635 kHz, 1 800 1 810 kHz and 2 160-2 170 kHz are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. 9.21. (WRC-15)

5.94 and 5.95 Not used.

5.96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Croatia, Denmark, Estonia, the Russian Federation, Finland, Georgia, Hungary, Ireland, Iceland, Israel, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the United Kingdom, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the frequency bands 1 715-1 800 kHz and 1 850-2 000 kHz. However, when allocating the frequency bands within this range to their amateur service, administrations shall, after prior consultation with administrations of neighbouring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W. (WRC-15)

5.97 In Region 3, the Loran system operates either on 1 850 kHz or 1 950 kHz, the bands occupied being 1 825-1 875 kHz and 1 925-1 975 kHz respectively. Other services to which the band 1 800-2 000 kHz is allocated may use any

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

frequency therein on condition that no harmful interference is caused to the Loran system operating on 1 850 kHz or 1 950 kHz.

5.98 Alternative allocation: in Armenia, Azerbaijan, Belarus, Belgium, Cameroon, Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Tunisia, Turkmenistan and Turkey, the frequency band 1 810-1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

5.99 Additional allocation: in Saudi Arabia, Austria, Iraq, Libya, Uzbekistan, Slovakia, Romania, Slovenia, Chad, and Togo, the band 1 810-1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.100 In Region 1, the authorization to use the band 1 810-1 830 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. 5.98 and **5.99** to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance with Nos. 5.98 and 5.99.

5.101 (SUP - WRC-12)

5.102 Alternative allocation: in Bolivia, Chile, Paraguay and Peru, the frequency band 1 850-2 000 kHz is allocated to the fixed, mobile except aeronautical mobile, radiolocation and radionavigation services on a primary basis.. (WRC-15)

5.103 In Region 1, in making assignments to stations in the fixed and mobile services in the bands 1 850-2 045 kHz, 2 194-2 498 kHz, 2 502-2 625 kHz and 2 650-2 850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.

5.104 In Region 1, the use of the band 2 025-2 045 kHz by the meteorological aids service is limited to oceanographic buoy stations.

5.105 In Region 2, except in Greenland, coast stations and ship stations using radiotelephony in the band 2 065-2 107 kHz shall be limited to class J3E emissions and to a peak envelope power not exceeding 1 kW. Preferably, the following carrier frequencies should be used: 2 065.0 kHz, 2 079.0 kHz, 2 082.5 kHz, 2 086.0 kHz, 2 093.0 kHz, 2 096.5 kHz, 2 100.0 kHz and 2 103.5 kHz. In Argentina and Uruguay, the carrier frequencies 2 068.5 kHz and 2 075.5 kHz are also used for this purpose, while the frequencies within the band 2 072-2 075.5 kHz are used as provided in No. 52.165.

5.106 In Regions 2 and 3, provided no harmful interference is caused to the maritime mobile service, the frequencies between 2 065 kHz and 2 107 kHz may be used by stations of the fixed service communicating only within national borders and whose mean power does not exceed 50 W. In notifying the frequencies, the attention of the Bureau should be drawn to these provisions.

5.107 Additional allocation: in Saudi Arabia, Eritrea, Ethiopia, Iraq, Libya, Somalia and Swaziland, the band 2 160-2 170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W. (WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.108 The carrier frequency 2 182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band 2 173.5-2 190.5 kHz are prescribed in Articles 31 and 52. (WRC-07)

5.109 The frequencies 2 187.5 kHz, 4 207.5 kHz, 6 312 kHz, 8 414.5 kHz, 12 577 kHz and 16 804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article 31

5.110 The frequencies 2 174.5 kHz, 4 177.5 kHz, 6 268 kHz, 8 376.5 kHz, 12 520 kHz and 16 695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. The conditions for the use of these frequencies are prescribed in Article 31.
5.111 The carrier frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and the frequencies 121.5 MHz, 156.525 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31. The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ±3 kHz about the frequency. (WRC-07)

5.112 Alternative allocation: in Denmark and Sri Lanka, the band 2 194-2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.113 For the conditions for the use of the bands 2 300-2 495 kHz (2 498 kHz in Region 1), 3 200-3 400 kHz, 4 750-4 995 kHz and 5 005-5 060 kHz by the broadcasting service, see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10.

5.114 Alternative allocation: in Denmark and Iraq, the band 2 502-2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article 31, by stations of the maritime mobile service engaged in coordinated search and rescue operations. (WRC-07)

5.116 Administrations are urged to authorize the use of the band 3 155-3 195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3 155 kHz and 3 400 kHz to suit local needs. It should be noted that frequencies in the range 3 000 kHz to 4 000 kHz are suitable for hearing aid devices which are designed to operate over short distances within the induction field.

5.117 Alternative allocation: in Côte d'Ivoire, Denmark, Egypt, Liberia, Sri Lanka and Togo, the band 3 155-3 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.118 Additional allocation: in the United States, Mexico, Peru and Uruguay, the band 3 230-3 400 kHz is also allocated to the radiolocation service on a secondary basis. (WRC-03)

5.119 Additional allocation: in Peru, the frequency band 3 500-3 750 kHz is also allocated to the fixed and mobile services on a primary basis. (WRC-15)
5.120 (SUP - WRC-2000)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.121 Not used.

5.122 Alternative allocation: in Bolivia, Chile, Ecuador, Paraguay and Peru, the frequency band 3 750-4 000 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

5.123 Additional allocation: in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 3 900-3 950 kHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.

5.124 (SUP - WRC-2000)

5.125 Additional allocation: in Greenland, the band 3 950-4 000 kHz is also allocated to the broadcasting service on a primary basis. The power of the broadcasting stations operating in this band shall not exceed that necessary for a national service and shall in no case exceed 5 kW.

5.126 In Region 3, the stations of those services to which the band 3 995-4 005 kHz is allocated may transmit standard frequency and time signals.

5.127 The use of the band 4 000-4 063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. 52.220 and Appendix 17).

5.128 Frequencies in the bands 4 063-4 123 kHz and 4 130-4 438 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W, on condition that harmful interference is not caused to the maritime mobile service. In addition, in Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Pakistan, Kyrgyzstan, Tajikistan, Chad, Turkmenistan and Ukraine, in the bands 4 063-4 123 kHz, 4 130-4 133 kHz and 4 408-4 438 kHz, stations in the fixed service, with a mean power not exceeding 1 kW, can be operated on condition that they are situated at least 600 km from the coast and that harmful interference is not caused to the maritime mobile service. (WRC-12)

5.129 (SUP - WRC-07)

5.130 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles 31 and 52. (WRC-07)

5.131 The frequency 4 209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques. (WRC-97)

5.132 The frequencies 4 210 kHz, 6 314 kHz, 8 416.5 kHz, 12 579 kHz, 16 806.5 kHz, 19 680.5 kHz, 22 376 kHz and 26 100.5 kHz are the international frequencies for the transmission of maritime safety information (MSI) (see Appendix 17).

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.132A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution 612 (Rev.WRC-12). (WRC-12)

5.132B Alternative allocation: in Armenia, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 4 438-4 488 kHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. (WRC-15)

5.133 Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Niger, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 130-5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-12)

5.133A Alternative allocation: in Armenia, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency bands 5 250-5 275 kHz and 26 200-26 350 kHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

5.133B Stations in the amateur service using the frequency band 5 351.5-5 366.5 kHz shall not exceed a maximum radiated power of 15 W (e.i.r.p.). However, in Region 2 in Mexico, stations in the amateur service using the frequency band 5 351.5-5 366.5 kHz shall not exceed a maximum radiated power of 20 W (e.i.r.p.). In the following Region 2 countries: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Dominica, El Salvador, Ecuador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela, as well as the overseas territories of the Netherlands in Region 2, stations in the amateur service using the frequency band 5 351.5 5 366.5 kHz shall not exceed a maximum radiated power of 25 W (e.i.r.p.). (WRC-15)

5.134 The use of the bands 5 900-5 950 kHz, 7 300-7 350 kHz, 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050- 12 100 kHz, 13 570-13 600 kHz, 13 800-13 870 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz by the broadcasting service is subject to the application of the procedure of Article 12. Administrations are encouraged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution 517 (Rev.WRC-07). (WRC-07)

5.135 (SUP - WRC-97)

5.136 frequencies in the band 5 900-5 950 kHz may be used by stations in the following services, communicating only within the boundary of the country in which they are located: fixed service (in all three Regions), land mobile service (in Region 1), mobile except aeronautical mobile (R) service (in Regions 2 and 3), on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

5.137 On condition that harmful interference is not caused to the maritime mobile service, the bands 6 200-6 213.5 kHz and 6 220.5-6 525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the Bureau will be drawn to the above conditions.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.138 The following bands:
6 765-6 795 kHz (centre frequency 6 780 kHz), 433.05-434.79 MHz (centre frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. 5.280, 61-61.5 GHz (centre frequency 61.25 GHz), 122-123 GHz (centre frequency 122.5 GHz), and 244-246 GHz (centre frequency 245 GHz) are designated for industrial, scientific and medical (ISM) applications. The use of these frequency bands for ISM applications shall be subject to special authorization by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant ITU-R Recommendations

5.138A Until 29 March 2009, the band 6 765-7 000 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. After this date, this band is allocated to the fixed and the mobile except aeronautical mobile (R) services on a primary basis. (WRC-03)

5.139 Different category of service: until 29 March 2009, in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 6 765-7 000 kHz to the land mobile service is on a primary basis (see No. 5.33). (WRC-07)

5.140 Additional allocation: in Angola, Iraq, Somalia and Togo, the band 7 000-7 050 kHz is also allocated to the fixed service on a primary basis. (WRC-15)

5.141 Alternative allocation: in Egypt, Eritrea, Ethiopia, Guinea, Libya, Madagascar and Niger, the band 7 000-7 050 kHz is allocated to the fixed service on a primary basis. (WRC-12)

5.141A Additional allocation: in Uzbekistan and Kyrgyzstan, the bands 7 000-7 100 kHz and 7 100-7 200 kHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03)

5.141B Additional allocation: after 29 March 2009, in Algeria, Saudi Arabia, Australia, Bahrain, Botswana, Brunei Darussalam, China, Comoros, Korea (Rep. of), Diego Garcia, Djibouti, Egypt, United Arab Emirates, Eritrea, Guinea, Indonesia, Iran (Islamic Republic of), Japan, Jordan, Kuwait, Libya, Mali, Morocco, Mauritania, Niger, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Tunisia, Viet Nam and Yemen, the band 7 100-7 200 kHz is also allocated to the fixed and the mobile, except aeronautical mobile (R), services on a primary basis. (WRC-15)

5.141C In Regions 1 and 3, the band 7 100-7 200 kHz is allocated to the broadcasting service until 29 March 2009 on a primary basis. (WRC-03)

5.142 Until 29 March 2009, the use of the band 7 100-7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. After 29 March 2009 the use of the band 7 200-7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. (WRC-03)

5.143 frequencies in the band 7 300-7 350 kHz may be used by stations in the fixed service and in the land mobile service, communicating only within the boundary of the country in which they are located, on condition that harmful

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

5.143A In Region 3, the band 7 350-7 450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-03)

5.143B In Region 1, the band 7 350-7 450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, on condition that harmful interference is not caused to the broadcasting service, frequencies in the band 7 350-7 450 kHz may be used by stations in the fixed and land mobile services communicating only within the boundary of the country in which they are located, each station using a total radiated power that shall not exceed 24 dBW. (WRC-03)

5.143C Additional allocation: after 29 March 2009 in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Iran (Islamic Republic of), Jordan, Kuwait, Libya, Morocco, Mauritania, Niger, Oman, Qatar, the Syrian Arab Republic, Sudan, South Sudan, Tunisia and Yemen, the bands 7 350-7 400 kHz and 7 400-7 450 kHz are also allocated to the fixed service on a primary basis. (WRC-12)

5.143D In Region 2, the band 7 350-7 400 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-03)

5.143E Until 29 March 2009, the band 7 450-8 100 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. (WRC-03)
5.144 In Region 3, the stations of those services to which the band 7 995-8 005 kHz is allocated may transmit standard frequency and time signals.

5.145 The conditions for the use of the carrier frequencies 8 291 kHz, 12 290 kHz and 16 420 kHz are prescribed in Articles 31 and 52. (WRC-07)

5.145A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed service. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution 612 (Rev.WRC-12). (WRC-12)

5.145B Alternative allocation: in Armenia, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency bands 9 305-9 355 kHz and 16 100-16 200 kHz are allocated to the fixed service on a primary basis. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.146 frequencies in the bands 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

5.147 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9 775-9 900 kHz, 11 650-11 700 kHz and 11 975-12 050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW.

5.148 (SUP - WRC-97)

5.149 In making assignments to stations of other services to which the bands: 13 360-13 410 kHz, 4 950-4 990 MHz, 102-109.5 GHz, 25 550-25 670 kHz, 4 990-5 000 MHz, 111.8-114.25 GHz, 37.5-38.25 MHz, 6 650-6 675.2 MHz, 128.33-128.59 GHz, 73-74.6 MHz in Regions 1 and 3, 10.6-10.68 GHz, 129.23-129.49 GHz, 150.05-153 MHz in Region 1, 14.47-14.5 GHz, 130-134 GHz, 322-328.6 MHz, 22.01-22.21 GHz, 136-148.5 GHz, 406.1-410 MHz, 22.21-22.5 GHz, 151.5-158.5 GHz, 608-614 MHz in Regions 1 and 3, 22.81-22.86 GHz, 168.59-168.93 GHz, 1 330-1 400 MHz, 23.07-23.12 GHz, 171.11-171.45 GHz, 1 610.6-1 613.8 MHz, 31.2-31.3 GHz, 172.31-172.65 GHz, 1 660-1 670 MHz, 31.5-31.8 GHz in Regions 1 and 3, 173.52-173.85 GHz, 1 718.8-1 722.2 MHz, 36.43-36.5 GHz, 195.75-196.15 GHz, 2 655-2 690 MHz, 42.5-43.5 GHz, 209-226 GHz, 3 260-3 267 MHz, 48.94-49.04 GHz, 241-250 GHz, 3 332-3 339 MHz, 76-86 GHz, 252-275 GHz 3 345.8-3 352.5 MHz, 92-94 GHz, 4 825-4 835 MHz, 94.1-100 GHz, are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 4.5 and 4.6 and Article 29). (WRC-07)

5.149A Alternative allocation: in Armenia, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 13 450-13 550 kHz is allocated to the fixed service on a primary basis and to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-15)

5.150 The following bands: 13 553-13 567 kHz (centre frequency 13 560 kHz), 26 957-27 283 kHz (centre frequency 27 120 kHz), 40.66-40.70 MHz (centre frequency 40.68 MHz), 902-928 MHz in Region 2 (centre frequency 915 MHz), 2 400-2 500 MHz (centre frequency 2 450 MHz), 5 725-5 875 MHz (centre frequency 5 800 MHz), and 24-24.25 GHz (centre frequency 24.125 GHz) are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. 15.13.

5.151 Additional allocation: frequencies in the bands 13 570-13 600 kHz and 13 800-13 870 kHz may be used by stations in the fixed service and in the mobile except aeronautical mobile (R) service, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. (WRC-07)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.152 Additional allocation: in Armenia, Azerbaijan, China, Côte d'Ivoire, the Russian Federation, Georgia, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 14 250-14 350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW. (WRC-03)

5.153 In Region 3, the stations of those services to which the band 15 995-16 005 kHz is allocated may transmit standard frequency and time signals.

5.154 Additional allocation: in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 18 068-18 168 kHz is also allocated to the fixed service on a primary basis for use within their boundaries, with a peak envelope power not exceeding 1 kW. (WRC-03)

5.155 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the band 21 850- 21 870 kHz is also allocated to the aeronautical mobile (R) service on a primary basis. (WRC-07)

5.155A In Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the use of the band 21 850-21 870 kHz by the fixed service is limited to provision of services related to aircraft flight safety. (WRC-07)

5.155B The band 21 870-21 924 kHz is used by the fixed service for provision of services related to aircraft flight safety.

5.156 Additional allocation: in Nigeria, the band 22 720-23 200 kHz is also allocated to the meteorological aids service (radiosondes) on a primary basis. 5.156A The use of the band 23 200-23 350 kHz by the fixed service is limited to provision of services related to aircraft flight safety.

5.157 The use of the band 23 350-24 000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.

5.158 Alternative allocation: in Armenia, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 24 450-24 600 kHz is allocated to the fixed and land mobile services on a primary basis. (WRC-15)

5.159 Alternative allocation: in Armenia, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 39-39.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-15)

5.160 Additional allocation: in Botswana, Burundi, Dem. Rep. of the Congo and Rwanda, the band 41-44 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)

5.161 Additional allocation: in Iran (Islamic Republic of) and Japan, the band 41-44 MHz is also allocated to the radiolocation service on a secondary basis.

5.161A Additional allocation: in Korea (Rep. of) and the United States, the frequency bands 41.015-41.665 MHz and 43.35-44 MHz are also allocated to the radiolocation service on a primary basis. Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution 612 (Rev.WRC-12). (WRC-12)

5.161B Alternative allocation: in Albania, Germany, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Cyprus, Vatican, Croatia, Denmark, Spain, Estonia, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Rep. of Macedonia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Norway, Uzbekistan, Netherlands, Portugal, Kyrgyzstan, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Slovenia, Sweden, Switzerland, Turkey and Ukraine, the frequency band 42-42.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-15)

5.162 Additional allocation: in Australia, the band 44-47 MHz is also allocated to the broadcasting service on a primary basis. (WRC-12)

5.162A Additional allocation: in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, the Russian Federation, Finland, France, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, the Czech Rep., the United Kingdom, Serbia, Slovenia, Sweden and Switzerland the band 46-68 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97). (WRC-12)

5.163 Additional allocation: in Armenia, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 47-48.5 MHz and 56.5-58 MHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-12)

5.164 Additional allocation: in Albania, Algeria, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Croatia, Denmark, Spain, Estonia, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Montenegro, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, Slovakia, Czech Rep., Romania, the United Kingdom, Serbia, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the frequency band 47-68 MHz, in South Africa the frequency band 47-50 MHz, and in Latvia the frequency band 48.5-56.5 MHz, are also allocated to the land mobile service on a primary basis. However, stations of the land mobile service in the countries mentioned in connection with each frequency band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the frequency band (WRC-15)

5.165 Additional allocation: in Angola, Cameroon, Congo (Rep. of the), Madagascar, Mozambique, Niger, Somalia, Sudan, South Sudan, Tanzania and Chad, the band 47-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12) 5.166 Not used. 5.167 Alternative allocation: in Bangladesh, Brunei Darussalam, India, Iran (Islamic Republic of), Pakistan and Singapore, the frequency band 50-54 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-15) 5.167A Additional allocation: in Indonesia and Thailand, the frequency band 50-54 MHz is also allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.168 Additional allocation: in Australia, China and the Dem. People's Rep. of Korea, the band 50-54 MHz is also allocated to the broadcasting service on a primary basis.

5.169 Alternative allocation: in Botswana, Lesotho, Malawi, Namibia, the Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 50-54 MHz is allocated to the amateur service on a primary basis. In Senegal, the band 50-51 MHz is allocated to the amateur service on a primary basis. (WRC-12)

5.170 Additional allocation: in New Zealand, the frequency band 51-54 MHz is also allocated to the fixed and mobile services on a primary basis (WRC-15)

5.171 Additional allocation: in Botswana, Lesotho, Malawi, Mali, Namibia, Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 54-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.172 Different category of service: in the French overseas departments and communities in Region 2 and Guyana, the allocation of the frequency band 54-68 MHz to the fixed and mobile services is on a primary basis (see No. 5.33). (WRC-15)

5.173 Different category of service: in the French overseas departments and communities in Region 2 and Guyana, the allocation of the frequency band 68-72 MHz to the fixed and mobile services is on a primary basis (see No. 5.33). (WRC-15)

5.174 (SUP - WRC-07)

5.175 Alternative allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting service on a primary basis. In Latvia and Lithuania, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting and mobile, except aeronautical mobile, services on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned. (WRC-07)

5.176 Additional allocation: in Australia, China, Korea (Rep. of), the Philippines, the Dem. People's Rep. of Korea and Samoa, the band 68-74 MHz is also allocated to the broadcasting service on a primary basis. (WRC-07)

5.177 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 73-74 MHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-07)

5.178 Additional allocation: in Colombia, Cuba, El Salvador, Guatemala, Guyana, Honduras and Nicaragua, the band 73-74.6 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

5.179 Additional allocation: in Armenia, Azerbaijan, Belarus, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Mongolia, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the bands 74.6-74.8 MHz and 75.2-75.4 MHz

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only. (WRC-12)

5.180 The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons. Every effort should be made to improve further the characteristics of airborne receivers and to limit the power of transmitting stations close to the limits 74.8 MHz and 75.2 MHz.

5.181 Additional allocation: in Egypt, Israel and the Syrian Arab Republic, the band 74.8-75.2 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. 9.21. (WRC-03)

5.182 Additional allocation: in Western Samoa, the band 75.4-87 MHz is also allocated to the broadcasting service on a primary basis.

5.183 Additional allocation: in China, Korea (Rep. of), Japan, the Philippines and the Dem. People's Rep. of Korea, the band 76-87 MHz is also allocated to the broadcasting service on a primary basis.

5.184 (SUP WRC-97)

5.185 Different category of service: in the United States, the French overseas departments and communities in Region 2, Guyana and Paraguay, the allocation of the frequency band 76-88 MHz to the fixed and mobile services is on a primary basis (see No. 5.33). (WRC-15)

5.186 (SUP - WRC-97)

5.187 Alternative allocation: in Albania, the band 81-87.5 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference (Geneva, 1960).

5.188 Additional allocation: in Australia, the band 85-87 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service in Australia is subject to special agreements between the administrations concerned.

5.189 Not used.

5.190 Additional allocation: in Monaco, the band 87.5-88 MHz is also allocated to the land mobile service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-97)

5.191 Not used.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.192 Additional allocation: in China and Korea (Rep. of), the band 100-108 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-97)

5.193 Not used.

5.194 Additional allocation: in Azerbaijan, Kyrgyzstan, Somalia and Turkmenistan, the band 104-108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-07)

5.195 and 5.196 Not used.

5.197 Additional allocation: in the Syrian Arab Republic, the band 108-111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedures invoked under No. 9.21. (WRC-12)

5.197A Additional allocation: the band 108-117.975 MHz is also allocated on a primary basis to the aeronautical mobile (R) service, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution 413 (Rev.WRC-07). The use of the band 108-112 MHz by the aeronautical mobile (R) service shall be limited to systems composed of ground-based transmitters and associated receivers that provide navigational information in support of air navigation functions in accordance with recognized international aeronautical standards. (WRC-07)

5.198 (SUP - WRC-07)

5.199 (SUP - WRC-07)

5.200 In the band 117.975-137 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article 31 for distress and safety purposes with stations of the aeronautical mobile service. (WRC-07)

5.201 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq (Republic of), Japan, Kazakhstan, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the frequency band 132-136 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-15)

5.202 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, the Russian Federation, Georgia, Iran (Islamic Republic of), Jordan, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the frequency band 136-137 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

(OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service. (WRC-15)

5.203 (SUP - WRC-07) 5.203A (SUP - WRC-07) 5.203B (SUP - WRC-07)

5.204 Different category of service: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Kuwait, Montenegro, Oman, Pakistan, the Philippines, Qatar, Serbia, Singapore, Thailand and Yemen, the band 137-138 MHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis (see No. 5.33). (WRC-07)

5.205 Different category of service: in Israel and Jordan, the allocation of the band 137-138 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33).

5.206 Different category of service: in Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, the Russian Federation, Finland, France, Georgia, Greece, Kazakhstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Syrian Arab Republic, Slovakia, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 137-138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. 5.33). (WRC-2000)

5.207 Additional allocation: in Australia, the band 137-144 MHz is also allocated to the broadcasting service on a primary basis until that service can be accommodated within regional broadcasting allocations. 5.208 The use of the band 137-138 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-97)

5.208A In making assignments to space stations in the mobile-satellite service in the bands 137-138 MHz, 387- 390 MHz and 400.15-401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz and 608-614 MHz from harmful interference from unwanted emissions. The threshold levels of interference detrimental to the radio astronomy service are shown in the relevant ITU-R Recommendation. (WRC-07)

5.208B In the frequency bands: 137-138 MHz, 387-390 MHz, 400.15-401 MHz, 1 452-1 492 MHz, 1 525-1 610 MHz, 1 613.8-1 626.5 MHz, 2 655-2 690 MHz, 21.4-22 GHz, Resolution 739 (WRC-15) applies. (WRC-15)

5.209 The use of the bands 137-138 MHz, 148-150.05 MHz, 399.9-400.05 MHz, 400.15-401 MHz, 454-456 MHz and 459-460 MHz by the mobile-satellite service is limited to non-geostationary-satellite systems. (WRC-97)

5.210 Additional allocation: in Italy, the Czech Rep. and the United Kingdom, the bands 138-143.6 MHz and 143.65-144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis. (WRC-07)

5.211 Additional allocation: in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Denmark, the United Arab Emirates, Spain, Finland, Greece, Guinea, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Liechtenstein, Luxembourg, Mali, Malta, Montenegro, Norway, the Netherlands, Qatar, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sweden, Switzerland, Tanzania, Tunisia and Turkey, the frequency band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.212 Alternative allocation: in Angola, Botswana, Cameroon, the Central African Rep., Congo (Rep. of the), Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Lesotho, Liberia, Libya, Malawi, Mozambique, Namibia, Niger, Oman, Uganda, Syrian Arab Republic, the Dem. Rep. of the Congo, Rwanda, Sierra Leone, South Africa, Swaziland, Chad, Togo, Zambia and Zimbabwe, the band 138-144 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)

5.213 Additional allocation: in China, the band 138-144 MHz is also allocated to the radiolocation service on a primary basis.

5.214 Additional allocation: in Eritrea, Ethiopia, Kenya, The Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Somalia, Sudan, South Sudan and Tanzania, the band 138-144 MHz is also allocated to the fixed service on a primary basis. (WRC-12)

5.215 Not used.

5.216 Additional allocation: in China, the band 144-146 MHz is also allocated to the aeronautical mobile (OR) service on a secondary basis.

5.217 Alternative allocation: in Afghanistan, Bangladesh, Cuba, Guyana and India, the band 146-148 MHz is allocated to the fixed and mobile services on a primary basis.

5.218 Additional allocation: the band 148-149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. The bandwidth of any individual transmission shall not exceed ± 25 kHz.

5.219 The use of the band 148-149.9 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the fixed, mobile and space operation services in the band 148-149.9 MHz.

5.220 The use of the frequency bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-15)

5.221 Stations of the mobile-satellite service in the frequency band 148-149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Botswana, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Croatia, Cuba, Denmark, Djibouti, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, the Russian Federation, Finland, France, Gabon, Georgia, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Montenegro, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Kyrgyzstan, Dem. People's Rep. of Korea, Slovakia, Romania, the United Kingdom, Senegal, Serbia, Sierra Leone, Singapore,

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Slovenia, Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia and Zimbabwe. (WRC-15)

5.222 Not used.

5.223 Not used.

5.224 (SUP - WRC-97)

5.224A Not used.

5.224B Not used.

5.225 Additional allocation: in Australia and India, the band 150.05-153 MHz is also allocated to the radio astronomy service on a primary basis.

5.225A Additional allocation: in Algeria, Armenia, Azerbaijan, Belarus, China, the Russian Federation, France, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and Viet Nam, the frequency band 154-156 MHz is also allocated to the radiolocation service on a primary basis. The usage of the frequency band 154-156 MHz by the radiolocation service shall be limited to space-object detection systems operating from terrestrial locations. The operation of stations in the radiolocation service in the frequency band 154-156 MHz shall be subject to agreement obtained under No. 9.21. For the identification of potentially affected administrations in Region 1, the instantaneous field-strength value of 12 dB(μV/m) for 10% of the time produced at 10 m above ground level in the 25 kHz reference frequency band at the border of the territory of any other administration shall be used. For the identification of potentially affected administrations in Region 3, the interference-to-noise ratio (I/N) value of 6 dB (N = 161 dBW/4 kHz), or 10 dB for applications with greater protection requirements, such as public protection and disaster relief (PPDR (N = 161 dBW/4 kHz)), for 1% of the time produced at 60 m above ground level at the border of the territory of any other administration shall be used. In the frequency bands 156.7625-156.8375 MHz, 156.5125-156.5375 MHz, 161.9625-161.9875 MHz, 162.0125-162.0375 MHz, out-of-band e.i.r.p. of space surveillance radars shall not exceed 16 dBW. Frequency assignments to the radiolocation service under this allocation in Ukraine shall not be used without the agreement of Moldova. (WRC-12)

5.226 The frequency 156.525 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service using digital selective calling (DSC). The conditions for the use of this frequency and the band 156.4875-156.5625 MHz are contained in Articles 31 and 52, and in Appendix 18. The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency and the band 156.7625-156.8375 MHz are contained in Article 31 and Appendix 18. In the bands 156-156.4875 MHz, 156.5625-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles 31 and 52, and Appendix 18). Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service. However, the frequencies 156.8 MHz and 156.525 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

interested and affected administrations and taking into account current frequency usage and existing agreements. (WRC-07)

5.227 Additional allocation: the bands 156.4875-156.5125 MHz and 156.5375-156.5625 MHz are also allocated to the fixed and land mobile services on a primary basis. The use of these bands by the fixed and land mobile services shall not cause harmful interference to nor claim protection from the maritime mobile VHF radiocommunication service. (WRC-07)

5.227A (SUP - WRC-12)

5.228 The use of the frequency bands 156.7625-156.7875 MHz and 156.8125-156.8375 MHz by the mobilesatellite service (Earth-to-space) is limited to the reception of automatic identification system (AIS) emissions of long-range AIS broadcast messages (Message 27, see the most recent version of Recommendation ITU-R M.1371). With the exception of AIS emissions, emissions in these frequency bands by systems operating in the maritime mobile service for communications shall not exceed 1 W. (WRC-12)

5.228A The frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz may be used by aircraft stations for the purpose of search and rescue operations and other safety-related communications. (WRC-12)

5.228AA The use of the frequency bands 161.9375-161.9625 MHz and 161.9875-162.0125 MHz by the maritime mobile-satellite (Earth-to-space) service is limited to the systems which operate in accordance with Appendix 18. (WRC-15)

5.228B The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the fixed and land mobile services shall not cause harmful interference to, or claim protection from, the maritime mobile service. (WRC-12)

5.228C The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the maritime mobile service and the mobile-satellite (Earth-to-space) service is limited to the automatic identification system (AIS). The use of these frequency bands by the aeronautical mobile (OR) service is limited to AIS emissions from search and rescue aircraft operations. The AIS operations in these frequency bands shall not constrain the development and use of the fixed and mobile services operating in the adjacent frequency bands. (WRC-12)

5.228D The frequency bands 161.9625-161.9875 MHz (AIS 1) and 162.0125-162.0375 MHz (AIS 2) may continue to be used by the fixed and mobile services on a primary basis until 1 January 2025, at which time this allocation shall no longer be valid. Administrations are encouraged to make all practicable efforts to discontinue the use of these bands by the fixed and mobile services prior to the transition date. During this transition period, the maritime mobile service in these frequency bands has priority over the fixed, land mobile and aeronautical mobile services. (WRC-12)

5.228E The use of the automatic identification system in the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the aeronautical mobile (OR) service is limited to aircraft stations for the purpose of search and rescue operations and other safety-related communications. (WRC-12) 5.228F The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the mobilesatellite service (Earth-to-space) is limited to the

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

reception of automatic identification system emissions from stations operating in the maritime mobile service. (WRC-12)

5.229 Alternative allocation: in Morocco, the band 162-174 MHz is allocated to the broadcasting service on a primary basis. The use of this band shall be subject to agreement with administrations having services, operating or planned, in accordance with the Table which are likely to be affected. Stations in existence on 1 January 1981, with their technical characteristics as of that date, are not affected by such agreement.

5.230 Additional allocation: in China, the band 163-167 MHz is also allocated to the space operation service (space-to-Earth) on a primary basis, subject to agreement obtained under No. 9.21.

5.231 Additional allocation: in Afghanistan and China, the band 167-174 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service into this band shall be subject to agreement with the neighbouring countries in Region 3 whose services are likely to be affected. (WRC-12)

5.232 Not used.

5.233 Additional allocation: in China, the band 174-184 MHz is also allocated to the space research (space-to-Earth) and the space operation (space-to-Earth) services on a primary basis, subject to agreement obtained under No. 9.21. These services shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations.

5.234 Not used.

5.235 Additional allocation: in Germany, Austria, Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Malta, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174-223 MHz is also allocated to the land mobile service on a primary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote.

5.236 Not used.

5.237 Additional allocation: in Congo (Rep. of the), Egypt, Eritrea, Ethiopia, Gambia, Guinea, Libya, Mali, Sierra Leone, Somalia and Chad, the band 174-223 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

5.238 Additional allocation: in Bangladesh, India, Pakistan and the Philippines, the band 200-216 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.239 Not used.

5.240 Additional allocation: in China and India, the band 216-223 MHz is also allocated to the aeronautical radionavigation service on a primary basis and to the radiolocation service on a secondary basis.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.241 In Region 2, no new stations in the radiolocation service may be authorized in the band 216-225 MHz. Stations authorized prior to 1 January 1990 may continue to operate on a secondary basis.

5.242 Additional allocation: in Canada, the band 216-220 MHz is also allocated to the land mobile service on a primary basis.

5.243 Additional allocation: in Somalia, the band 216-225 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to not causing harmful interference to existing or planned broadcasting services in other countries.

5.244 (SUP - WRC-97)

5.245 Additional allocation: in Japan, the band 222-223 MHz is also allocated to the aeronautical radionavigation service on a primary basis and to the radiolocation service on a secondary basis.

5.246 Alternative allocation: in Spain, France, Israel and Monaco, the band 223-230 MHz is allocated to the broadcasting and land mobile services on a primary basis (see No. 5.33) on the basis that, in the preparation of frequency plans, the broadcasting service shall have prior choice of frequencies; and allocated to the fixed and mobile, except land mobile, services on a secondary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations in Morocco and Algeria

5.247 Additional allocation: in Saudi Arabia, Bahrain, the United Arab Emirates, Jordan, Oman, Qatar and Syrian Arab Republic, the band 223-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.248 and **5.249** Not used.

5.250 Additional allocation: in China, the band 225-235 MHz is also allocated to the radio astronomy service on a secondary basis.

5.251 Additional allocation: in Nigeria, the band 230-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to agreement obtained under No. 9.21.

5.252 Alternative allocation: in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the bands 230-238 MHz and 246-254 MHz are allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.

5.253 Not used.

5.254 The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under No. 9.21, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations except for the additional allocation made in footnote No. 5.256A. (WRC-03)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.255 The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. 9.11A.

5.256 The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes. (WRC-07) 5.256A Additional allocation: in China, the Russian Federation and Kazakhstan, the frequency band 258-261 MHz is also allocated to the space research service (Earth-to-space) and space operation service (Earth-to-space) on a primary basis. Stations in the space research service (Earth-to-space) and space operation service (Earth-to-space) shall not cause harmful interference to, or claim protection from, or constrain the use and development of, the mobile service systems and mobile-satellite service systems operating in the frequency band. Stations in space research service (Earth-to-space) and space operation service (Earth-to-space) shall not constrain the future development of fixed service systems of other countries. (WRC-15)

5.257 The band 267-272 MHz may be used by administrations for space telemetry in their countries on a primary basis, subject to agreement obtained under No. 9.21.
5.258 The use of the band 328.6-335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).

5.259 Additional allocation: in Egypt and the Syrian Arab Republic, the band 328.6-335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. 9.21. (WRC-12)

5.260 Not used.

5.261 Emissions shall be confined in a band of ± 25 kHz about the standard frequency 400.1 MHz.

5.262 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Botswana, Colombia, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Singapore, Somalia, Tajikistan, Chad, Turkmenistan and Ukraine, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

5.263 The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service.

5.264 The use of the band 400.15-401 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The power flux-density limit indicated in Annex 1 of Appendix 5 shall apply until such time as a competent world radiocommunication conference revises it.

5.265 In the frequency band 403-410 MHz, Resolution 205 (Rev.WRC 15) applies. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.266 The use of the band 406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position indicating radio beacons (see also Article 31). (WRC-07)

5.267 Any emission capable of causing harmful interference to the authorized uses of the band 406-406.1 MHz is prohibited.

5.268 Use of the frequency band 410-420 MHz by the space research service is limited to space-to-space communication links with an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from transmitting stations of the space research service (space-to-space) in the frequency band 410-420 MHz shall not exceed −153 dB(W/m2) for $0° \le \delta \le 5°$, $-153 + 0.077 (\delta - 5)$ dB(W/m2) for $5° \le \delta \le 70°$ and −148 dB(W/m2) for $70° \le \delta \le 90°$, where δ is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. In this frequency band, stations of the space research service (space-to-space) shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. No. 4.10 does not apply. (WRC-15)

5.269 Different category of service: in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 420-430 MHz and 440-450 MHz to the radiolocation service is on a primary basis (see No. 5.33).

5.270 Additional allocation: in Australia, the United States, Jamaica and the Philippines, the bands 420-430 MHz and 440-450 MHz are also allocated to the amateur service on a secondary basis.

5.271 Additional allocation: in Belarus, China, India, Kyrgyzstan and Turkmenistan, the band 420-460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis. (WRC-07)

5.272 (SUP - WRC-12)

5.273 (SUP - WRC-12)

5.274 Alternative allocation: in Denmark, Norway, Sweden and Chad, the bands 430-432 MHz and 438-440 MHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.275 Additional allocation: in Croatia, Estonia, Finland, Libyan Arab Jamahiriya, The Former Yugoslav Republic of Macedonia, Montenegro and Serbia the bands 430-432 MHz and 438-440 MHz are also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

5.276 Additional allocation: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Djibouti, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Jordan, Kenya, Kuwait, Libya, Malaysia, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Switzerland, Thailand, Togo, Turkey and Yemen, the frequency band 430-440 MHz is also allocated to the fixed service on a primary basis and the frequency bands 430-435 MHz and 438-440 MHz are also allocated, except in Ecuador, to the mobile, except aeronautical mobile, service on a primary basis. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.277 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Rep. of the), Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Mongolia, Uzbekistan, Poland, the Dem. Rep. of the Congo, Kyrgyzstan, Slovakia, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis. (WRC-12)

5.278 Different category of service: in Argentina, Colombia, Costa Rica, Cuba, Guyana, Honduras, Panama and Venezuela, the allocation of the band 430-440 MHz to the amateur service is on a primary basis (see No. 5.33).

5.279 Additional allocation: in Mexico, the bands 430-435 MHz and 438-440 MHz are also allocated on a primary basis to the land mobile service, subject to agreement obtained under No. 9.21.

5.279A The use of the frequency band 432-438 MHz by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU-R RS.1260-1. Additionally, the Earth exploration-satellite service (active) in the frequency band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provisions of this footnote in no way diminish the obligation of the Earth exploration-satellite service (active) to operate as a secondary service in accordance with Nos. 5.29 and 5.30. (WRC-15)

5.280 In Germany, Austria, Bosnia and Herzegovina, Croatia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Montenegro, Portugal, Serbia, Slovenia and Switzerland, the band 433.05-434.79 MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 15.13. (WRC-07)

5.281 Additional allocation: in the French Overseas Departments in Region 2 and India, the band 433.75-434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis. In France and in Brazil, the band is allocated to the same service on a secondary basis.

5.282 In the bands 435-438 MHz, 1 260-1 270 MHz, 2 400-2 450 MHz, 3 400-3 410 MHz (in Regions 2 and 3 only) and 5 650-5 670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. 5.43). Administrations authorizing such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. 25.11. The use of the bands 1 260-1 270 MHz and 5 650-5 670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.

5.283 Additional allocation: in Austria, the band 438-440 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.284 Additional allocation: in Canada, the band 440-450 MHz is also allocated to the amateur service on a secondary basis.

5.285 Different category of service: in Canada, the allocation of the band 440-450 MHz to the radiolocation service is on a primary basis (see No. 5.33).

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.286 The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to agreement obtained under No. 9.21.

5.286A The use of the bands 454-456 MHz and 459-460 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-97)

5.286AA The frequency band 450-470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). See Resolution 224 (Rev.WRC-15). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.286B The use of the band 454-455 MHz in the countries listed in No. 5.286D, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. 5.286E, by stations in the mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

5.286C The use of the band 454-455 MHz in the countries listed in No. 5.286D, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No. 5.286E, by stations in the mobile-satellite service, shall not constrain the development and use of the fixed and mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

5.286D Additional allocation: in Canada, the United States and Panama, the band 454-455 MHz is also allocated to the mobile-satellite service (Earth-to-space) on a primary basis. (WRC-07)

5.286E Additional allocation: in Cape Verde, Nepal and Nigeria, the bands 454-456 MHz and 459-460 MHz are also allocated to the mobile-satellite (Earth-to-space) service on a primary basis. (WRC-07)

5.287 Use of the frequency bands 457.5125-457.5875 MHz and 467.5125-467.5875 MHz by the maritime mobile service is limited to on-board communication stations. The characteristics of the equipment and the channelling arrangement shall be in accordance with Recommendation ITU-R M.1174-3. The use of these frequency bands in territorial waters is subject to the national regulations of the administration concerned. (WRC-15)

5.288 In the territorial waters of the United States and the Philippines, the preferred frequencies for use by on board communication stations shall be 457.525 MHz, 457.550 MHz, 457.575 MHz and 457.600 MHz paired, respectively, with 467.750 MHz, 467.775 MHz, 467.800 MHz and 467.825 MHz. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174-3. (WRC-15)

5.289 Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460-470 MHz and 1 690-1 710 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table.

5.290 Different category of service: in Afghanistan, Azerbaijan, Belarus, China, the Russian Federation, Japan, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 460-470 MHz to the meteorological-satellite service (space-to-Earth) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. (WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.291 Additional allocation: in China, the band 470-485 MHz is also allocated to the space research (space-to-Earth) and the space operation (space-to-Earth) services on a primary basis subject to agreement obtained under No. 9.21 and subject to not causing harmful interference to existing and planned broadcasting stations.

5.291A Additional allocation: in Germany, Austria, Denmark, Estonia, Liechtenstein, the Czech Rep., Serbia and Switzerland, the frequency band 470-494 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97). (WRC-15)

5.292 Different category of service: in Argentina, Uruguay and Venezuela, the allocation of the frequency band 470-512 MHz to the mobile service is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. (WRC-15)

5.293 Different category of service: in Canada, Chile, Cuba, the United States, Guyana, Jamaica and Panama, the allocation of the frequency bands 470-512 MHz and 614 806 MHz to the fixed service is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. In the Bahamas, Barbados, Canada, Chile, Cuba, the United States, Guyana, Jamaica, Mexico and Panama, the allocation of the frequency bands 470-512 MHz and 614-698 MHz to the mobile service is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. In Argentina and Ecuador, the allocation of the frequency band 470-512 MHz to the fixed and mobile services is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. (WRC-15)

5.294 Additional allocation: in Saudi Arabia, Cameroon, Côte d'Ivoire, Egypt, Ethiopia, Israel, Libya, the Syrian Arab Republic, Chad and Yemen, the frequency band 470-582 MHz is also allocated to the fixed service on a secondary basis. (WRC-15)

5.295 In the Bahamas, Barbados, Canada, the United States and Mexico, the frequency band 470-608 MHz, or portions thereof, is identified for International Mobile Telecommunications (IMT) – see Resolution 224 (Rev.WRC 15). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Mobile service stations of the IMT system within the frequency band are subject to agreement obtained under No. 9.21 and shall not cause harmful interference to, or claim protection from, the broadcasting service of neighbouring countries. Nos. 5.43 and 5.43A apply. In Mexico, the use of IMT in this frequency band will not start before 31 December 2018 and may be extended if agreed by the neighbouring countries. (WRC-15)

5.296 Additional allocation: in Albania, Germany, Angola, Saudi Arabia, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Burundi, Cameroon, Vatican, Congo (Rep. of the), Côte d'Ivoire, Croatia, Denmark, Djibouti, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Gabon, Georgia, Ghana, Hungary, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kenya, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malawi, Mali, Malta, Morocco, Mauritius, Mauritania, Moldova, Monaco, Mozambique, Namibia, Niger, Nigeria, Norway, Oman, Uganda, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, the Czech Republic, the United Kingdom, Rwanda, San Marino, Serbia, Sudan, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Togo, Tunisia, Turkey, Ukraine, Zambia and Zimbabwe, the frequency band 470-694 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting and programme making. Stations of the land mobile service

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

in the countries listed in this footnote shall not cause harmful interference to existing or planned stations operating in accordance with the Table in countries other than those listed in this footnote. (WRC-15)

5.296A In Micronesia, the Solomon Islands, Tuvalu and Vanuatu, the frequency band 470-698 MHz, or portions thereof, and in Bangladesh, Maldives and New Zealand, the frequency band 610 698 MHz, or portions thereof, are identified for use by these administrations wishing to implement International Mobile Telecommunications (IMT) – see Resolution 224 (Rev.WRC-15). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. The mobile allocation in this frequency band shall not be used for IMT systems unless subject to agreement obtained under No. 9.21 and shall not cause harmful interference to, or claim protection from, the broadcasting service of neighbouring countries. Nos. 5.43 and 5.43A apply. (WRC-15)

5.297 Additional allocation: in Canada, Costa Rica, Cuba, El Salvador, the United States, Guatemala, Guyana and Jamaica, the frequency band 512-608 MHz is also allocated to the fixed and mobile services on a primary basis, subject to agreement obtained under No. 9.21. In the Bahamas, Barbados and Mexico, the frequency band 512-608 MHz is also allocated to the mobile service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-15)

5.298 Additional allocation: in India, the band 549.75-550.25 MHz is also allocated to the space operation service (space-to-Earth) on a secondary basis.

5.299 Not used.

5.300 Additional allocation: in Saudi Arabia, Cameroon, Egypt, United Arab Emirates, Israel, Jordan, Libya, Oman, Qatar, the Syrian Arab Republic and Sudan, the frequency band 582-790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-15)

5.301 Not used.

5.302 (SUP - WRC-12)

5.303 Not used.

5.304 Additional allocation: in the African Broadcasting Area (see Nos. 5.10 to 5.13), the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.

5.305 Additional allocation: in China, the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.

5.306 Additional allocation: in Region 1, except in the African Broadcasting Area (see Nos. 5.10 to 5.13), and in Region 3, the band 608-614 MHz is also allocated to the radio astronomy service on a secondary basis.

5.307 Additional allocation: in India, the band 608-614 MHz is also allocated to the radio astronomy service on a primary basis.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.308 Additional allocation: in Belize and Colombia, the frequency band 614 698 MHz is also allocated to the mobile service on a primary basis. Stations of the mobile service within the frequency band are subject to agreement obtained under No. 9.21. (WRC-15)

5.308A In the Bahamas, Barbados, Belize, Canada, Colombia, the United States and Mexico, the frequency band 614-698 MHz, or portions thereof, is identified for International Mobile Telecommunications (IMT) – see Resolution 224 (Rev.WRC-15). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. Mobile service stations of the IMT system within the frequency band are subject to agreement obtained under No. 9.21 and shall not cause harmful interference to or claim protection from the broadcasting service of neighbouring countries. Nos. 5.43 and 5.43A apply. In Belize and Mexico, the use of IMT in this frequency band will not start before 31 December 2018 and may be extended if agreed by the neighbouring countries. (WRC-15)

5.309 Different category of service: in El Salvador, the allocation of the frequency band 614-806 MHz to the fixed service is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21. (WRC-15)

5.310 (SUP - WRC-97)

5.311 (SUP - WRC-07)

5.311A For the frequency band 620-790 MHz, see also Resolution 549 (WRC-07). (WRC-07)

5.312 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the frequency band 645-862 MHz, in Bulgaria the frequency bands 646-686 MHz, 726-758 MHz, 766-814 MHz and 822-862 MHz, and in Poland the frequency band 860-862 MHz until 31 December 2017, are also allocated to the aeronautical radionavigation service on a primary basis. (WRC-15)

5.312A In Region 1, the use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service is subject to the provisions of Resolution 760 (WRC-15). See also Resolution 224 (Rev.WRC-15). (WRC-15)

5.313 (SUP - WRC-97)

5.313A The frequency band, or portions of the frequency band 698-790 MHz, in Australia, Bangladesh, Brunei Darussalam, Cambodia, China, Korea (Rep. of), Fiji, India, Indonesia, Japan, Kiribati, Lao P.D.R., Malaysia, Myanmar (Union of), New Zealand, Pakistan, Papua New Guinea, the Philippines, Solomon Islands, Samoa, Singapore, Thailand, Tonga, Tuvalu, Vanuatu and Viet Nam, are identified for use by these administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. In China, the use of IMT in this frequency band will not start until 2015. (WRC-15)

5.313B Not used.

5.314 Not used.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.315 Not used.

5.316 Not used.

5.316A Not used.

5.316B In Region 1, the allocation to the mobile, except aeronautical mobile, service in the frequency band 790-862 MHz is subject to agreement obtained under No. 9.21 with respect to the aeronautical radionavigation service in countries mentioned in No. 5.312. For countries party to the GE06 Agreement, the use of stations of the - 145 - mobile service is also subject to the successful application of the procedures of that Agreement. Resolutions 224 (Rev.WRC 15) and 749 (Rev.WRC 15) shall apply, as appropriate. (WRC-15)

5.317 Additional allocation: in Region 2 (except Brazil, the United States and Mexico), the frequency band 806-890 MHz is also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21. The use of this service is intended for operation within national boundaries. (WRC-15)

5.317A T The parts of the frequency band 698-960 MHz in Region 2 and the frequency bands 694-790 MHz in Region 1 and 790-960 MHz in Regions 1 and 3 which are allocated to the mobile service on a primary basis are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) – see Resolutions 224 (Rev.WRC 15), 760 (WRC 15) and 749 (Rev.WRC 15), where applicable. This identification does not preclude the use of these frequency bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.318 Additional allocation: in Canada, the United States and Mexico, the bands 849-851 MHz and 894-896 MHz are also allocated to the aeronautical mobile service on a primary basis, for public correspondence with aircraft. The use of the band 849-851 MHz is limited to transmissions from aeronautical stations and the use of the band 894-896 MHz is limited to transmissions from aircraft stations.

5.319 Additional allocation: in Belarus, the Russian Federation and Ukraine, the bands 806-840 MHz (Earth-to-space) and 856-890 MHz (space-to-Earth) are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R), service. The use of these bands by this service shall not cause harmful interference to, or claim protection from, services in other countries operating in accordance with the Table of Frequency Allocations and is subject to special agreements between the administrations concerned.

5.320 Additional allocation: in Region 3, the bands 806-890 MHz and 942-960 MHz are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R), service on a primary basis, subject to agreement obtained under No. 9.21. The use of this service is limited to operation within national boundaries. In seeking such agreement, appropriate protection shall be afforded to services operating in accordance with the Table, to ensure that no harmful interference is caused to such services.

5.321 (SUP - WRC-07)

5.322 In Region 1, in the band 862-960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. 5.10 to 5.13) excluding Algeria, Burundi, Egypt, Spain, Lesotho, Libya, Morocco, Malawi,

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No. 9.21. (WRC-12)

5.323 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 862-960 MHz, in Bulgaria the bands 862-890.2 MHz and 900-935.2 MHz, in Poland the band 862-876 MHz until 31 December 2017, and in Romania the bands 862-880 MHz and 915-925 MHz, are also allocated to the aeronautical radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-12)

5.324 Not used.

5.325 Different category of service: in the United States, the allocation of the band 890-942 MHz to the radiolocation service is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21.

5.325A Different category of service: in Argentina, Brazil, Costa Rica, Cuba, Dominican Republic, El Salvador, Ecuador, the French overseas departments and communities in Region 2, Guatemala, Mexico, Paraguay, Uruguay and Venezuela, the frequency band 902-928 MHz is allocated to the land mobile service on a primary basis. In Colombia, the frequency band 902-905 MHz is allocated to the land mobile service on a primary basis. (WRC-2015)

5.326 Different category of service: in Chile, the band 903-905 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis, subject to agreement obtained under No. 9.21.

5.327 Different category of service: in Australia, the allocation of the band 915-928 MHz to the radiolocation service is on a primary basis (see No. 5.33).

5.327A The use of the frequency band 960-1 164 MHz by the aeronautical mobile (R) service is limited to systems that operate in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution 417 (Rev.WRC-15). (WRC-15)

5.328 The use of the band 960-1 215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities. (WRC-2000)

5.328A Stations in the radionavigation-satellite service in the band 1 164-1 215 MHz shall operate in accordance with the provisions of Resolution 609 (Rev.WRC-07) and shall not claim protection from stations in the aeronautical radionavigation service in the band 960-1 215 MHz. No. 5.43A does not apply. The provisions of No. 21.18 shall apply. (WRC-07)

5.328AA The frequency band 1 087.7-1 092.3 MHz is also allocated to the aeronautical mobile-satellite (R) service (Earth to space) on a primary basis, limited to the space station reception of Automatic Dependent Surveillance-Broadcast (ADS-B) emissions from aircraft transmitters that operate in accordance with recognized international aeronautical standards. Stations operating in the aeronautical mobile-satellite (R) service shall not claim protection from stations operating in the aeronautical radionavigation service. Resolution 425 (WRC-15) shall apply. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.328B The use of the bands 1 164-1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 MHz by systems and networks in the radionavigation-satellite service for which complete coordination or notification information, as appropriate, is received by the Radiocommunication Bureau after 1 January 2005 is subject to the application of the provisions of Nos. 9.12, 9.12A and 9.13. Resolution 610 (WRC-03) shall also apply; however, in the case of radionavigation-satellite service (space-to-space) networks and systems, Resolution 610 (WRC-03) shall only apply to transmitting space stations. In accordance with No. 5.329A, for systems and networks in the radionavigation-satellite service (space-to-space) in the bands 1 215-1 300 MHz and 1 559-1 610 MHz, the provisions of Nos. 9.7, 9.12, 9.12A and 9.13 shall only apply with respect to other systems and networks in the radionavigation-satellite service (space-to-space). (WRC-07)

5.329 Use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service authorized under No. 5.331. Furthermore, the use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to the radiolocation service. No. 5.43 shall not apply in respect of the radiolocation service. Resolution 608 (WRC-03) shall apply. (WRC-03)

5.329A Use of systems in the radionavigation-satellite service (space-to-space) operating in the bands 1 215- 1 300 MHz and 1 559-1 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on radionavigation-satellite service (space-to-Earth) systems or on other services operating in accordance with the Table of Frequency Allocations. (WRC-07)

5.330 Additional allocation: in Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Nepal, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 1 215-1 300 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

5.331 Additional allocation: in Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brazil, Burkina Faso, Burundi, Cameroon, China, Korea (Rep. of), Croatia, Denmark, Egypt, the United Arab Emirates, Estonia, the Russian Federation, Finland, France, Ghana, Greece, Guinea, Equatorial Guinea, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Israel, Jordan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, Pakistan, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sudan, South Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Viet Nam, the band 1 215-1 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the band 1 240-1 300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC-12)

5.332 In the band 1 215-1 260 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis. (WRC-2000)

5.333 (SUP - WRC-97)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.334 Additional allocation: in Canada and the United States, the band 1 350-1 370 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.335 In Canada and the United States in the band 1 240-1 300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause interference to, claim protection from, or otherwise impose constraints on operation or development of the aeronautical radionavigation service. (WRC-97)

5.335A In the band 1 260-1 300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (WRC-2000)

5.336 Not used.

5.337 The use of the bands 1 300-1 350 MHz, 2 700-2 900 MHz and 9 000-9 200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.

5.337A The use of the band 1 300-1 350 MHz by earth stations in the radionavigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radionavigation service. (WRC-2000)

5.338 In Kyrgyzstan, Slovakia and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1 350-1 400 MHz. (WRC-12)

5.338A In the frequency bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz, 51.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution 750 (Rev.WRC-15) applies. (WRC-15)

5.339 The bands 1 370-1 400 MHz, 2 640-2 655 MHz, 4 950-4 990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and Earth exploration-satellite (passive) services on a secondary basis. 5.339A (SUP - WRC-07)

5.340 All emissions are prohibited in the following bands: 1 400-1 427 MHz, 2 690-2 700 MHz, except those provided for by No. 5.422, 10.68-10.7 GHz, except those provided for by No. 5.483, 15.35-15.4 GHz, except those provided for by No. 5.511, 23.6-24 GHz, 31.3-31.5 GHz, 31.5-31.8 GHz, in Region 2, 48.94-49.04 GHz, from airborne stations 50.2-50.4 GHz, 52.6-54.25 GHz, 86-92 GHz, 100-102 GHz, 109.5-111.8 GHz, 114.25-116 GHz, 148.5-151.5 GHz, 164-167 GHz, 182-185 GHz, 190-191.8 GHz, 200-209 GHz, 226-231.5 GHz, 250-252 GHz. (WRC-03)

5.341 In the bands 1 400-1 727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extra-terrestrial origin.

5.341A In Region 1, the frequency bands 1 427-1 452 MHz and 1 492-1 518 MHz are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC-15). This identification does not preclude the use of these frequency bands by any other application of

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

the services to which it is allocated and does not establish priority in the Radio Regulations. The use of IMT stations is subject to agreement obtained under No. 9.21 with respect to the aeronautical mobile service used for aeronautical telemetry in accordance with No. 5.342. (WRC-15)

5.341B In Region 2, the frequency band 1 427-1 518 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC 15). This identification does not preclude the use of this frequency band by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.341C The frequency bands 1 427-1 452 MHz and 1 492-1 518 MHz are identified for use by administrations in Region 3 wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC-15). The use of these frequency bands by the above administrations for the implementation of IMT in the frequency bands 1 429-1 452 MHz and 1 492-1 518 MHz is subject to agreement obtained under No. 9.21 from countries using stations of the aeronautical mobile service. This identification does not preclude the use of these frequency bands by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.342 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Uzbekistan, Kyrgyzstan and Ukraine, the frequency band 1 429-1 535 MHz is also allocated to the aeronautical mobile service on a primary basis, exclusively for the purposes of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the frequency band 1 452-1 492 MHz is subject to agreement between the administrations concerned. (WRC-15)

5.343 In Region 2, the use of the band 1 435-1 535 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.

5.344 Alternative allocation: in the United States, the band 1 452-1 525 MHz is allocated to the fixed and mobile services on a primary basis (see also No. 5.343).

5.345 Use of the band 1 452-1 492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92).

5.346 In Algeria, Angola, Saudi Arabia, Bahrain, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Congo (Rep. of the), Côte d'Ivoire, Djibouti, Egypt, United Arab Emirates, Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Kenya, Kuwait, Lesotho, Lebanon, Liberia, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Palestine*, Qatar, Dem. Rep. of the Congo, Rwanda, Senegal, Seychelles, Sudan, South Sudan, South Africa, Swaziland, Tanzania, Chad, Togo, Tunisia, Zambia, and Zimbabwe, the frequency band 1 452-1 492 MHz is identified for use by administrations listed above wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC-15). This identification does not preclude the use of this frequency band by any other application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of this frequency band for the implementation of IMT is subject to agreement obtained under No. 9.21 with respect to the aeronautical mobile service used for aeronautical telemetry in accordance with No. 5.342. See also Resolution 761 (WRC-15). (WRC-15)
5.346A The frequency band 1 452-1 492 MHz is identified for use by administrations in Region 3 wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC-15) and Resolution 761

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

(WRC-15). The use of this frequency band by the above administrations for the implementation of IMT is subject to agreement obtained under No. 9.21 from countries using stations of the aeronautical mobile service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.347 (SUP - WRC-07)

5.347A (SUP - WRC-07)

5.348 The use of the band 1 518-1 525 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1 518-1 525 MHz stations in the mobile-satellite service shall not claim protection from the stations in the fixed service. No. 5.43A does not apply. (WRC-03)

5.348A In the band 1 518-1 525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. 9.11A for space stations in the mobile-satellite (space-to-Earth) service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be –150 dB(W/m2) in any 4 kHz band for all angles of arrival, instead of those given in Table 5-2 of Appendix 5. In the band 1 518-1 525 MHz stations in the mobile-satellite service shall not claim protection from stations in the mobile service in the territory of Japan. No. 5.43A does not apply. (WRC-03)

5.348B In the band 1 518-1 525 MHz, stations in the mobile-satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States (see Nos. 5.343 and 5.344) and in the countries listed in No. 5.342. No. 5.43A does not apply. (WRC-03)

5.348C (SUP - WRC-07)

5.349 Different category of service: in Saudi Arabia, Azerbaijan, Bahrain, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, Syrian Arab Republic, Kyrgyzstan, Turkmenistan and Yemen, the allocation of the band 1 525- 1 530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-07)

5.350 Additional allocation: in Azerbaijan, Kyrgyzstan and Turkmenistan, the band 1 525-1 530 MHz is also allocated to the aeronautical mobile service on a primary basis. (WRC-2000)

5.351 The bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 626.5-1 645.5 MHz and 1 646.5-1 660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorized by an administration to communicate via space stations using these bands.

5.351A For the use of the bands 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610-1 645.5 MHz, 1 646.5-1 660.5 MHz, 1 668-1 675 MHz, 1 980-2 010 MHz, 2 170-2 200 MHz, 2 483.5-2 520 MHz and 2 670-2 690 MHz by the mobile-satellite service, see Resolutions 212 (Rev.WRC-07) and 225 (Rev.WRC-07). (WRC-07)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.352 (SUP - WRC-97)

5.352A In the frequency band 1 525-1 530 MHz, stations in the mobile-satellite service, except stations in the maritime mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed service in Algeria, Saudi Arabia, Egypt, France and French overseas communities of Region 3, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Viet Nam and Yemen notified prior to 1 April 1998. (WRC-15)

5.353 (SUP - WRC-97)

5.353A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the bands 1 530-1 544 MHz and 1 626.5-1 645.5 MHz, priority shall be given to accommodating the spectrum requirements for distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). Maritime mobile-satellite distress, urgency and safety communications shall have priority access and immediate availability over all other mobile satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (WRC-2000) shall apply.) (WRC-2000)

5.354 The use of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile-satellite services is subject to coordination under No. 9.11A.

5.355 Additional allocation: in Bahrain, Bangladesh, Congo (Rep. of the), Djibouti, Egypt, Eritrea, Iraq, Israel, Kuwait, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the bands 1 540-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a secondary basis. (WRC-12)

5.356 The use of the band 1 544-1 545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article 31).

5.357 Transmissions in the band 1 545-1 555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.

5.357A In applying the procedures of Section II of Article 9 to the mobile-satellite service in the frequency bands 1 545-1 555 MHz and 1 646.5-1 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article 44. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44 shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222 (WRC-12) shall apply.) (WRC-12)

5.358 (SUP - WRC-97)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.359 Additional allocation: in Germany, Saudi Arabia, Armenia, Azerbaijan, Belarus, Benin, Cameroon, the Russian Federation, France, Georgia, Guinea, Guinea-Bissau, Jordan, Kazakhstan, Kuwait, Lithuania, Mauritania, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Tajikistan, Tunisia, Turkmenistan and Ukraine, the frequency bands 1 550-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a primary basis. Administrations are urged to make all practicable efforts to avoid the implementation of new fixed-service stations in these frequency bands. (WRC-15)

5.360 to **5.362** (SUP - WRC-97)

5.362A In the United States, in the bands 1 555-1 559 MHz and 1 656.5-1 660.5 MHz, the aeronautical mobile-satellite (R) service shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (WRC-97)

5.362B Not used.

5.362C Not used.

5.363 (SUP - WRC-07)

5.364 The use of the band 1 610-1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under No. 9.11A. A mobile earth station operating in either of the services in this band shall not produce a peak e.i.r.p. density in excess of -15 dB (W/4 kHz) in the part of the band used by systems operating in accordance with the provisions of No. 5.366 (to which No. 4.10 applies), unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, the mean e.i.r.p. density of a mobile earth station shall not exceed –3 dB (W/4 kHz). Stations of the mobile-satellite service shall not claim protection from stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. 5.366 and stations in the fixed service operating in accordance with the provisions of No. 5.359. Administrations responsible for the coordination of mobile-satellite networks shall make all practicable efforts to ensure protection of stations operating in accordance with the provisions of No. 5.366.

5.365 The use of the band 1 613.8-1 626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to coordination under No. 9.11A.

5.366 The band 1 610-1 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. 9.21.

5.367 Additional allocation: The frequency band 1 610-1 626.5 MHz is also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.368 With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. 4.10 do not apply in the band 1 610-1 626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.

5.369 Different category of service: in Angola, Australia, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, South Sudan, Togo and Zambia, the allocation of the band 1 610-1 626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21 from countries not listed in this provision. (WRC-12)

5.370 Different category of service: in Venezuela, the allocation to the radiodetermination-satellite service in the band 1 610-1 626.5 MHz (Earth-to-space) is on a secondary basis.

5.371 Additional allocation: in Region 1, the band 1 610-1 626.5 MHz (Earth-to-space) is also allocated to the radiodetermination-satellite service on a secondary basis, subject to agreement obtained under No. 9.21. (WRC-12)

5.372 Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. 29.13 applies).

5.373 Not used.

5.373A (SUP - WRC-97)

5.374 Mobile earth stations in the mobile-satellite service operating in the bands 1 631.5-1 634.5 MHz and 1 656.5-1 660 MHz shall not cause harmful interference to stations in the fixed service operating in the countries listed in No. 5.359. (WRC-97)

5.375 The use of the band 1 645.5-1 646.5 MHz by the mobile-satellite service (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (see Article 31).

5.376 Transmissions in the band 1 646.5-1 656.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.

5.376A Mobile earth stations operating in the band 1 660-1 660.5 MHz shall not cause harmful interference to stations in the radio astronomy service. (WRC-97)

5.377 (SUP - WRC-03)

5.378 Not used.

5.379 Additional allocation: in Bangladesh, India, Indonesia, Nigeria and Pakistan, the band 1 660.5-1 668.4 MHz is also allocated to the meteorological aids service on a secondary basis.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.379A Administrations are urged to give all practicable protection in the band 1 660.5-1 668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1 664.4-1 668.4 MHz as soon as practicable.

5.379B The use of the band 1 668-1 675 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1 668-1 668.4 MHz, Resolution 904 (WRC-07) shall apply. (WRC-07)

5.379C In order to protect the radio astronomy service in the band 1 668-1 670 MHz, the aggregate power flux-density values produced by mobile earth stations in a network of the mobile-satellite service operating in this band shall not exceed –181 dB (W/m2) in 10 MHz and −194 dB (W/m2) in any 20 kHz at any radio astronomy station recorded in the Master International Frequency Register, for more than 2% of integration periods of 2 000 s. (WRC-03)

5.379D For sharing of the band 1 668.4-1 675 MHz between the mobile-satellite service and the fixed and mobile services, Resolution 744 (Rev.WRC-07) shall apply. (WRC-07)

5.379E In the band 1 668.4-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to stations in the meteorological aids service in China, Iran (Islamic Republic of), Japan and Uzbekistan. In the band 1 668.4-1 675 MHz, administrations are urged not to implement new systems in the meteorological aids service and are encouraged to migrate existing meteorological aids service operations to other bands as soon as practicable. (WRC-03) 5.380 (SUP - WRC-07)

5.380A In the band 1 670-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, existing earth stations in the meteorological-satellite service notified before 1 January 2004. Any new assignment to these earth stations in this band shall also be protected from harmful interference from stations in the mobile-satellite service. (WRC-07)

5.381 Additional allocation: in Afghanistan, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1 690-1 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.382 Different category of service: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Iraq, Israel, Jordan, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, Somalia, Tajikistan, Turkmenistan, Ukraine and Yemen, the allocation of the frequency band 1 690-1 700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33), and in the Dem. People's Rep. of Korea, the allocation of the frequency band 1 690-1 700 MHz to the fixed service is on a primary basis (see No. 5.33) and to the mobile, except aeronautical mobile, service on a secondary basis. (WRC-15)

5.383 Not used. 5.384 Additional allocation: in India, Indonesia and Japan, the band 1 700-1 710 MHz is also allocated to the space research service (space-to-Earth) on a primary basis. (WRC-97)

5.384A The frequency bands 1 710-1 885 MHz, 2 300-2 400 MHz and 2 500-2 690 MHz, or portions thereof, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC 15). This identification does not preclude the use of these frequency bands

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.385 Additional allocation: the band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. (WRC-2000)

5.386 Additional allocation: the frequency band 1 750-1 850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2 (except in Mexico), in Australia, Guam, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. 9.21, having particular regard to troposcatter systems. (WRC-15)

5.387 Additional allocation: in Belarus, Georgia, Kazakhstan, Kyrgyzstan, Romania, Tajikistan and Turkmenistan, the band 1 770-1 790 MHz is also allocated to the meteorological-satellite service on a primary basis, subject to agreement obtained - 152 - under No. 9.21. (WRC-12)

5.388 The frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications (IMT). Such use does not preclude the use of these frequency bands by other services to which they are allocated. The frequency bands should be made available for IMT in accordance with Resolution 212 (Rev.WRC-15) (see also Resolution 223 (Rev.WRC-15)). (WRC-15)

5.388A In Regions 1 and 3, the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz and, in Region 2, the bands 1 885-1 980 MHz and 2 110-2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications-2000 (IMT-2000), in accordance with Resolution 221 (Rev.WRC-03). Their use by IMT-2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-03)

5.388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Libya, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, South Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT-2000 mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT-2000 base station in neighbouring countries, in the bands referred to in No. 5.388A, shall not exceed a co-channel power flux-density of -127 dB(W/(m2 · MHz)) at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-12)

5.389 Not used.

5.389A The use of the bands 1 980-2 010 MHz and 2 170-2 200 MHz by the mobile-satellite service is subject to coordination under No. 9.11A and to the provisions of Resolution 716 (Rev.WRC-2000). (WRC-07)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.389B The use of the band 1 980-1 990 MHz by the mobile-satellite service shall not cause harmful interference to or constrain the development of the fixed and mobile services in Argentina, Brazil, Canada, Chile, Ecuador, the United States, Honduras, Jamaica, Mexico, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

5.389C The use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz in Region 2 by the mobile-satellite service is subject to coordination under No. 9.11A and to the provisions of Resolution 716 (Rev.WRC-2000). (WRC-07)

5.389D (SUP - WRC-03)

5.389E The use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz by the mobile-satellite service in Region 2 shall not cause harmful interference to or constrain the development of the fixed and mobile services in Regions 1 and 3.

5.389F In Algeria, Benin, Cape Verde, Egypt, Iran (Islamic Republic of), Mali, Syrian Arab Republic and Tunisia, the use of the bands 1 980-2 010 MHz and 2 170-2 200 MHz by the mobile-satellite service shall neither cause harmful interference to the fixed and mobile services, nor hamper the development of those services prior to 1 January 2005, nor shall the former service request protection from the latter services. (WRC-2000)

5.390 (SUP - WRC-07)

5.391 In making assignments to the mobile service in the frequency bands 2 025-2 110 MHz and 2 200-2 290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154-0, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-15)

5.392 Administrations are urged to take all practicable measures to ensure that space-to-space transmissions between two or more non-geostationary satellites, in the space research, space operations and Earth exploration-satellite services in the bands 2 025-2 110 MHz and 2 200-2 290 MHz, shall not impose any constraints on Earth-to-space, space-to-Earth and other space-to-space transmissions of those services and in those bands between geostationary and non-geostationary satellites. 5.392A (SUP - WRC-07)

5.393 Additional allocation: in Canada, the United States and India, the frequency band 2 310-2 360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (Rev.WRC-15), with the exception of resolves 3 in regard to the limitation on broadcasting-satellite systems in the upper 25 MHz. (WRC-15)

5.394 In the United States, the use of the band 2 300-2 390 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile - 153 - services. In Canada, the use of the band 2 360-2 400 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. (WRC-07)

5.395 In France and Turkey, the use of the band 2 310-2 360 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service. (WRC-03)

5.396 Space stations of the broadcasting-satellite service in the band 2 310-2 360 MHz operating in accordance with No. 5.393 that may affect the services to which this band is allocated in other countries shall be coordinated and

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

notified in accordance with Resolution 33 (Rev.WRC-97). Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use.

5.397 (SUP – WRC-12)

5.398 In respect of the radiodetermination-satellite service in the band 2 483.5-2 500 MHz, the provisions of No. 4.10 do not apply. 5.398A Different category of service: In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, the band 2 483.5-2 500 MHz is allocated on a primary basis to the radiolocation service. The radiolocation stations in these countries shall not cause harmful interference to, or claim protection from, stations of the fixed, mobile and mobile-satellite services operating in accordance with the Radio Regulations in the frequency band 2 483.5-2 500 MHz. (WRC-12)

5.399 Except for cases referred to in No. 5.401, stations of the radiodetermination-satellite service operating in the frequency band 2 483.5-2 500 MHz for which notification information is received by the Bureau after 17 February 2012, and the service area of which includes Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, shall not cause harmful interference to, and shall not claim protection from stations of the radiolocation service operating in these countries in accordance with No. 5.398A. (WRC-12)

5.400 (SUP – WRC-12)

5.401 In Angola, Australia, Bangladesh, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, Dem. Rep. of the Congo, Sudan, Swaziland, Togo and Zambia, the frequency band 2 483.5-2 500 MHz was already allocated on a primary basis to the radiodetermination-satellite service before WRC-12, subject to agreement obtained under No. 9.21 from countries not listed in this provision. Systems in the radiodetermination-satellite service for which complete coordination information has been received by the Radiocommunication Bureau before 18 February 2012 will retain their regulatory status, as of the date of receipt of the coordination request information. (WRC-15)

5.402 The use of the band 2 483.5-2 500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the coordination under No. 9.11A. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2 483.5-2 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990-5 000 MHz band allocated to the radio astronomy service worldwide.

5.403 Subject to agreement obtained under No. 9.21, the band 2 520-2 535 MHz may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions of No. 9.11A apply. (WRC-07)

5.404 Additional allocation: in India and Iran (Islamic Republic of), the band 2 500-2 516.5 MHz may also be used for the radiodetermination-satellite service (space-to-Earth) for operation limited to within national boundaries, subject to agreement obtained under No. 9.21.

5.405 (SUP – WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.406 Not used.

5.407 In the band 2 500-2 520 MHz, the power flux-density at the surface of the Earth from space stations operating in the mobile-satellite (space-to-Earth) service shall not exceed –152 dB (W/ (m2 · 4 kHz)) in Argentina, unless otherwise agreed by the administrations concerned.

5.408 (SUP - WRC-2000)

5.409 (SUP - WRC-07)

5.410 The band 2 500-2 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. 9.21. No. 9.21 does not apply to tropospheric scatter links situated entirely outside Region 1. Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in this band. When planning new tropospheric scatter radio-relay links in this band, all possible measures shall be taken to avoid directing the antennas of these links towards the geostationary-satellite orbit. (WRC-12)

5.411 (SUP - WRC-07)

5.412 Alternative allocation: in Kyrgyzstan and Turkmenistan, the band 2 500-2 690 MHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.413 In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690-2 700 MHz.

5.414 The allocation of the frequency band 2 500-2 520 MHz to the mobile-satellite service (space-to-Earth) is subject to coordination under No. 9.11A. (WRC-07)

5.414A In Japan and India, the use of the bands 2 500-2 520 MHz and 2 520-2 535 MHz, under No. 5.403, by a satellite network in the mobile-satellite service (space-to-Earth) is limited to operation within national boundaries and subject to the application of No. 9.11A. The following pfd values shall be used as a threshold for coordination under No. 9.11A, for all conditions and for all methods of modulation, in an area of 1 000 km around the territory of the administration notifying the mobile-satellite service network: −136 dB (W/ (m2 · MHz)) for 0 º ≤ θ ≤ 5 º −136 + 0.55 (θ − 5) dB (W/ (m2 · MHz)) for 5 º < θ ≤ 25 º −125 dB (W/ (m2 · MHz)) for 25 º < θ ≤ 90 º where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. Outside this area Table 21-4 of Article 21 shall apply. Furthermore, the coordination thresholds in Table 5-2 of Annex 1 to Appendix 5 of the Radio Regulations (Edition of 2004), in conjunction with the applicable provisions of Articles 9 and 11 associated with No. 9.11A, shall apply to systems for which complete notification information has been received by the Radiocommunication Bureau by 14 November 2007 and that have been brought into use by that date. (WRC-07)

5.415 The use of the bands 2 500-2 690 MHz in Region 2 and 2 500-2 535 MHz and 2 655-2 690 MHz in Region 3 by the fixed-satellite service is limited to national and regional systems, subject to agreement obtained under No. 9.21, giving particular attention to the broadcasting-satellite service in Region 1. (WRC-07)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.415A Additional allocation: in India and Japan, subject to agreement obtained under No. 9.21, the band 2 515-2 535 MHz may also be used for the aeronautical mobile-satellite service (space-to-Earth) for operation limited to within their national boundaries. (WRC-2000)

5.416 The use of the band 2 520-2 670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. 9.21. The provisions of No. 9.19 shall be applied by administrations in this band in their bilateral and multilateral negotiations. (WRC-07)

5.417 (SUP - WRC-2000)

5.417A Not used. 5.417B Not used. 5.417C Not used. 5.417D Not used.

5.418 Additional allocation: in India, the frequency band 2 535-2 655 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (Rev.WRC-15). The provisions of No. 5.416 and Table 21-4 of Article 21, do not apply to this additional allocation. Use of non-geostationary-satellite systems in the broadcasting-satellite service (sound) is subject to Resolution 539 (Rev.WRC-15). Geostationary broadcasting-satellite service (sound) systems for which complete Appendix 4 coordination information has been received after 1 June 2005 are limited to systems intended for national coverage. The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting-satellite service (sound) space station operating in the frequency band 2 630-2 655 MHz, and for which complete Appendix 4 coordination information has been received after 1 June 2005, shall not exceed the following limits, for all conditions and for all methods of modulation: −130 dB(W/(m2 · MHz)) for 0 º ≤ θ ≤ 5 º −130+0.4 (θ − 5) dB(W/(m2 · MHz)) for 5 º < θ ≤ 25 º –122 dB(W/(m2 · MHz)) for 25 º < θ ≤ 90 º where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. As an exception to the limits above, the pfd value of -122 dB (W/(m2 · MHz)) shall be used as a threshold for coordination under No. 9.11 in an area of 1 500 km around the territory of the administration notifying the broadcasting-satellite service (sound) system. - 155 - In addition, an administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. 5.416 for systems for which complete Appendix 4 coordination information has been received after 1 June 2005. (WRC-15)

5.418A In certain Region 3 countries listed in No. 5.418, use of the band 2 630-2 655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound) for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. 9.12A, in respect of geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, is considered to have been received after 2 June 2000, and No. 22.2 does not apply. No. 22.2 shall continue to apply with respect to geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, is considered to have been received before 3 June 2000. (WRC-03)

5.418B Use of the band 2 630-2 655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418, for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. 9.12. (WRC-03)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.418C Use of the band 2 630-2 655 MHz by geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000 is subject to the application of the provisions of No. 9.13 with respect to non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418 and No. 22.2 does not apply. (WRC-03)

5.419 When introducing systems of the mobile-satellite service in the band 2 670-2 690 MHz, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with No. 9.11A. (WRC-07)

5.420 The band 2 655-2 670 MHz may also be used for the mobile-satellite (Earth-to-space), except aeronautical mobile-satellite, service for operation limited to within national boundaries, subject to agreement obtained under No. 9.21. The coordination under No. 9.11A applies. (WRC-07)

5.420A (SUP - WRC-07)

5.421 (SUP - WRC-03)

5.422 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Brunei Darussalam, Congo (Rep. of the), Côte d'Ivoire, Cuba, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Mauritania, Mongolia, Montenegro, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, the band 2 690-2 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-12)
5.423 In the band 2 700-2 900 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the aeronautical radionavigation service.

5.424 Additional allocation: in Canada, the band 2 850-2 900 MHz is also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars.

5.424A In the band 2 900-3 100 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the radionavigation service. (WRC-03)

5.425 In the band 2 900-3 100 MHz, the use of the shipborne interrogator-transponder (SIT) system shall be confined to the sub-band 2 930 -2 950 MHz.

5.426 The use of the band 2 900-3 100 MHz by the aeronautical radionavigation service is limited to ground-based radars.

5.427 In the bands 2 900-3 100 MHz and 9 300-9 500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. 4.9.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.428 Additional allocation: in Azerbaijan, Kyrgyzstan and Turkmenistan, the frequency band 3 100-3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-15)

5.429 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Benin, Brunei Darussalam, Cambodia, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Egypt, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Oman, Uganda, - 156 - Pakistan, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Sudan and Yemen, the frequency band 3 300-3 400 MHz is also allocated to the fixed and mobile services on a primary basis. The countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service. (WRC-15)

5.429A Additional allocation: in Angola, Benin, Botswana, Burkina Faso, Burundi, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sudan, South Sudan, South Africa, Swaziland, Tanzania, Chad, Togo, Zambia and Zimbabwe, the frequency band 3 300 3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. Stations in the mobile service operating in the frequency band 3 300-3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. (WRC-15)

5.429B In the following countries of Region 1 south of 30° parallel north: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Congo (Rep. of the), Côte d'Ivoire, Egypt, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Uganda, the Dem. Rep. of the Congo, Rwanda, Sudan, South Sudan, South Africa, Swaziland, Tanzania, Chad, Togo, Zambia and Zimbabwe, the frequency band 3 300-3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). The use of this frequency band shall be in accordance with Resolution 223 (Rev.WRC 15). The use of the frequency band 3 300-3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service, and administrations wishing to implement IMT shall obtain the agreement of neighbouring countries to protect operations within the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.429C Different category of service: in Argentina, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Paraguay and Uruguay, the frequency band 3 300-3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. In Argentina, Brazil, Guatemala, Mexico and Paraguay, the frequency band 3 300-3 400 MHz is also allocated to the fixed service on a primary basis. Stations in the fixed and mobile services operating in the frequency band 3 300-3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. (WRC-15)

5.429D In the following countries in Region 2: Argentina, Colombia, Costa Rica, Ecuador, Mexico and Uruguay, the use of the frequency band 3 300-3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). Such use shall be in accordance with Resolution 223 (Rev.WRC 15). This use in Argentina and Uruguay is subject to the application of No. 9.21. The use of the frequency band 3 300-3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service, and administrations wishing to implement IMT shall obtain the agreement of neighbouring countries to protect

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

operations within the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.429E Additional allocation: in Papua New Guinea, the frequency band 3 300-3 400 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis. Stations in the mobile service operating in the frequency band 3 300-3 400 MHz shall not cause harmful interference to, or claim protection from, stations operating in the radiolocation service. (WRC-15)

5.429F In the following countries in Region 3: Cambodia, India, Lao P.D.R., Pakistan, the Philippines and Viet Nam, the use of the frequency band 3 300-3 400 MHz is identified for the implementation of International Mobile Telecommunications (IMT). Such use shall be in accordance with Resolution 223 (Rev.WRC-15). The use of the frequency band 3 300-3 400 MHz by IMT stations in the mobile service shall not cause harmful interference to, or claim protection from, systems in the radiolocation service. Before an administration brings into use a base or mobile station of an IMT system in this frequency band, it shall seek agreement under No. 9.21 with neighbouring countries to protect the radiolocation service. This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-15)

5.430 Additional allocation: in Azerbaijan, Kyrgyzstan and Turkmenistan, the frequency band 3 300-3 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-15)

5.430A The allocation of the frequency band 3 400-3 600 MHz to the mobile, except aeronautical mobile, service is subject to agreement obtained under No. 9.21. This frequency band is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The provisions of Nos. 9.17 and 9.18 shall also apply in the coordination phase. Before an administration brings into use a (base or mobile) station of the mobile service in this frequency band, it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m2 · 4 kHz)) for more - 157 - than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station) and with the assistance of the Bureau if so requested. In case of disagreement, calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the frequency band 3 400-3 600 MHz shall not claim more protection from space stations than that provided in Table 21-4 of the Radio Regulations (Edition of 2004). (WRC-15)

5.431 Additional allocation: in Germany and Israel, the frequency band 3 400-3 475 MHz is also allocated to the amateur service on a secondary basis. (WRC-15)

5.431A In Region 2, the allocation of the frequency band 3 400-3 500 MHz to the mobile, except aeronautical mobile, service on a primary basis is subject to agreement obtained under No. 9.21. (WRC-15)

5.431B In Region 2, the frequency band 3 400-3 600 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination, the provisions of Nos. 9.17 and 9.18 also apply. Before an administration brings into use a base or mobile station of an IMT system, it shall seek agreement under No. 9.21 with other administrations and ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB (W/ (m2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service, including IMT systems, in the frequency band 3 400-3 600 MHz shall not claim more protection from space stations than that provided in Table 21-4 of the Radio Regulations (Edition of 2004). (WRC-15)

5.432 Different category of service: in Korea (Rep. of), Japan and Pakistan, the allocation of the band 3 400-3 500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-2000)

5.432A In Korea (Rep. of), Japan and Pakistan, the band 3 400-3 500 MHz is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination, the provisions of Nos. 9.17 and 9.18 also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed –154.5 dB (W/ (m2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the band 3 400-3 500 MHz shall not claim more protection from space stations than that provided in Table 21-4 of the Radio Regulations (Edition of 2004). (WRC-07)

5.432B Different category of service: in Australia, Bangladesh, China, French overseas communities of Region 3, India, Iran (Islamic Republic of), New Zealand, the Philippines and Singapore, the frequency band 3 400-3 500 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis, subject to agreement obtained under No. 9.21 with other administrations and is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination, the provisions of Nos. 9.17 and 9.18 also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this frequency band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB (W/ (m2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be - 158 - made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the frequency band 3 400-3 500 MHz shall not claim more protection from space stations than that provided in Table 21-4 of the Radio Regulations (Edition of 2004). (WRC-15)

5.433 In Regions 2 and 3, in the band 3 400-3 600 MHz the radiolocation service is allocated on a primary basis. However, all administrations operating radiolocation systems in this band are urged to cease operations by 1985. Thereafter, administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

5.433A In Australia, Bangladesh, China, French overseas communities of Region 3, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, New Zealand, Pakistan and the Philippines, the frequency band 3 500-3 600 MHz is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination, the provisions of Nos. 9.17 and 9.18 also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this frequency band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB (W/ (m2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the frequency band 3 500-3 600 MHz shall not claim more protection from space stations than that provided in Table 21-4 of the Radio Regulations (Edition of 2004). (WRC-15)

5.434 In Canada, Colombia, Costa Rica and the United States, the frequency band 3 600-3 700 MHz, or portions thereof, is identified for use by these administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination, the provisions of Nos. 9.17 and 9.18 also apply. Before an administration brings into use a base or mobile station of an IMT system, it shall seek agreement under No. 9.21 with other administrations and ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB (W/ (m2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service, including IMT systems, in the frequency band 3 600-3 700 MHz shall not claim more protection from space stations than that provided in Table 21-4 of the Radio Regulations (Edition of 2004). (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.435 In Japan, in the band 3 620-3 700 MHz, the radiolocation service is excluded.

5.436 Use of the frequency band 4 200-4 400 MHz by stations in the aeronautical mobile (R) service is reserved exclusively for wireless avionics intra-communication systems that operate in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution 424 (WRC 15). (WRC-15)

5.437 Passive sensing in the Earth exploration-satellite and space research services may be authorized in the frequency band 4 200-4 400 MHz on a secondary basis. (WRC-15)

5.438 Use of the frequency band 4 200-4 400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. (WRC-15)
5.439 Additional allocation: in Iran (Islamic Republic of), the band 4 200-4 400 MHz is also allocated to the fixed service on a secondary basis. (WRC-12)

5.440 The standard frequency and time signal-satellite service may be authorized to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ± 2 MHz of these frequencies, subject to agreement obtained under No. 9.21.

5.440A In Region 2 (except Brazil, Cuba, French Overseas Departments and Communities, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 400-4 940 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. 1.83). Such use shall be in accordance with Resolution 416 - 159 - (WRC-07) and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of these bands by other mobile service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)

5.441 The use of the bands 4 500-4 800 MHz (space-to-Earth), 6 725-7 025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)

5.441A In Uruguay, the frequency band 4 800-4 900 MHz, or portions thereof, is identified for the implementation of International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of this frequency band for the implementation of IMT is subject to agreement obtained with neighbouring

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

countries, and IMT stations shall not claim protection from stations of other applications of the mobile service. Such use shall be in accordance with Resolution 223 (Rev.WRC-15). (WRC-15)

5.441B In Cambodia, Lao P.D.R. and Viet Nam, the frequency band 4 800-4 990 MHz, or portions thereof, is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). This identification does not preclude the use of this frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. The use of this frequency band for the implementation of IMT is subject to agreement obtained under No. 9.21 with concerned administrations, and IMT stations shall not claim protection from stations of other applications of the mobile service. In addition, before an administration brings into use an IMT station in the mobile service, it shall ensure that the power flux-density produced by this station does not exceed −155 dB (W/ (m2 · 1 MHz)) produced up to 19 km above sea level at 20 km from the coast, defined as the low-water mark, as officially recognized by the coastal State. This criterion is subject to review at WRC-19. See Resolution 223 (Rev.WRC-15). This identification shall be effective after WRC-19. (WRC-15)

5.442 In the frequency bands 4 825-4 835 MHz and 4 950-4 990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service. In Region 2 (except Brazil, Cuba, Guatemala, Mexico, Paraguay, Uruguay and Venezuela), and in Australia, the frequency band 4 825-4 835 MHz is also allocated to the aeronautical mobile service, limited to aeronautical mobile telemetry for flight testing by aircraft stations. Such use shall be in accordance with Resolution 416 (WRC 07) and shall not cause harmful interference to the fixed service. (WRC-15)

5.443 Different category of service: in Argentina, Australia and Canada, the allocation of the bands 4 825-4 835 MHz and 4 950-4 990 MHz to the radio astronomy service is on a primary basis (see No. 5.33).

5.443A (SUP - WRC-03)

5.443AA In the frequency bands 5 000-5 030 MHz and 5 091-5 150 MHz, the aeronautical mobile-satellite (R) service is subject to agreement obtained under No. 9.21. The use of these bands by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)

5.443B In order not to cause harmful interference to the microwave landing system operating above 5 030 MHz, the aggregate power flux-density produced at the Earth's surface in the frequency band 5 030-5 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the frequency band 5 010-5 030 MHz shall not exceed −124.5 dB (W/ m2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the frequency band 4 990-5 000 MHz, radionavigation-satellite service systems operating in the frequency band 5 010-5 030 MHz shall comply with the limits in the frequency band 4 990-5 000 MHz defined in Resolution 741 (Rev.WRC-15). (WRC-15)

5.443C The use of the frequency band 5 030-5 091 MHz by the aeronautical mobile (R) service is limited to internationally standardized aeronautical systems. Unwanted emissions from the aeronautical mobile (R) service in the frequency band 5 030-5 091 MHz shall be limited to protect RNSS system downlinks in the adjacent 5 010-5 030 - 160 - MHz band. Until such time that an appropriate value is established in a relevant ITU-R Recommendation, the e.i.r.p. density limit of -75 dBW/MHz in the frequency band 5 010-5 030 MHz for any AM(R)S station unwanted emission should be used. (WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.443D In the frequency band 5 030-5 091 MHz, the aeronautical mobile-satellite (R) service is subject to coordination under No. 9.11A. The use of this frequency band by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)

5.444 The frequency band 5 030-5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. In the frequency band 5 030-5 091 MHz, the requirements of this system shall have priority over other uses of this frequency band. For the use of the frequency band 5 091-5 150 MHz, No. 5.444A and Resolution 114 (Rev.WRC-15) apply. (WRC-15)

5.444A The use of the allocation to the fixed-satellite service (Earth-to-space) in the frequency band 5 091-5 150 MHz is limited to feeder links of non-geostationary satellite systems in the mobile-satellite service and is subject to coordination under No. 9.11A. The use of the frequency band 5 091-5 150 MHz by feeder links of non-geostationary satellite systems in the mobile-satellite service shall be subject to application of Resolution 114 (Rev.WRC-15). Moreover, to ensure that the aeronautical radionavigation service is protected from harmful interference, coordination is required for feeder-link earth stations of the non-geostationary satellite systems in the mobile-satellite service which are separated by less than 450 km from the territory of an administration operating ground stations in the aeronautical radionavigation service. (WRC-15)

5.444B The use of the frequency band 5 091-5 150 MHz by the aeronautical mobile service is limited to: – systems operating in the aeronautical mobile (R) service and in accordance with international aeronautical standards, limited to surface applications at airports. Such use shall be in accordance with Resolution 748 (Rev.WRC-15); – aeronautical telemetry transmissions from aircraft stations (see No. 1.83) in accordance with Resolution 418 (Rev.WRC-15). (WRC-15)

5.445 Not used.

5.446 Additional allocation: in the countries listed in No. 5.369, the frequency band 5 150 5 216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis, subject to agreement obtained under No. 9.21. In Region 2 (except in Mexico), the frequency band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in No. 5.369 and Bangladesh, the frequency band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the frequency bands 1 610-1 626.5 MHz and/or 2 483.5-2 500 MHz. The total power flux-density at the Earth's surface shall in no case exceed −159 dB (W/ m2) in any 4 kHz band for all angles of arrival. (WRC-15)

5.446A The use of the bands 5 150-5 350 MHz and 5 470-5 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution 229 (Rev.WRC-12). (WRC-12)

5.446B In the band 5 150-5 250 MHz, stations in the mobile service shall not claim protection from earth stations in the fixed-satellite service. No. 5.43A does not apply to the mobile service with respect to fixed-satellite service earth stations. (WRC-03)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.446C Additional allocation: in Region 1 (except in Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, Sudan, South Sudan and Tunisia) and in Brazil, the band 5 150-5 250 MHz is also allocated to the aeronautical mobile service on a primary basis, limited to aeronautical telemetry transmissions from aircraft stations (see No. 1.83), in accordance with Resolution 418 (WRC-07). These stations shall not claim protection from other stations operating in accordance with Article 5. No. 5.43A does not apply. (WRC-12)

5.447 Additional allocation: in Côte d'Ivoire, Egypt, Israel, Lebanon, the Syrian Arab Republic and Tunisia, the band 5 150-5 250 MHz is also allocated to the mobile service, on a primary basis, subject to agreement obtained under No. 9.21. In this case, the provisions of Resolution 229 (Rev.WRC-12) do not apply. (WRC-12)

5.447A The allocation to the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination under No. 9.11A.

5.447B Additional allocation: the band 5 150-5 216 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. 9.11A. The power flux-density at the Earth's surface - 161 - produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5 150-5 216 MHz shall in no case exceed –164 dB (W/m2) in any 4 kHz band for all angles of arrival

5.447C Administrations responsible for fixed-satellite service networks in the band 5 150-5 250 MHz operated under Nos. 5.447A and 5.447B shall coordinate on an equal basis in accordance with No. 9.11A with administrations responsible for non-geostationary-satellite networks operated under No. 5.446 and brought into use prior to 17 November 1995. Satellite networks operated under No. 5.446 brought into use after 17 November 1995 shall not claim protection from, and shall not cause harmful interference to, stations of the fixed-satellite service operated under Nos. 5.447A and 5.447B.

5.447D The allocation of the band 5 250-5 255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

5.447E Additional allocation: The frequency band 5 250-5 350 MHz is also allocated to the fixed service on a primary basis in the following countries in Region 3: Australia, Korea (Rep. of), India, Indonesia, Iran (Islamic Republic of), Japan, Malaysia, Papua New Guinea, the Philippines, Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam. The use of this frequency band by the fixed service is intended for the implementation of fixed wireless access systems and shall comply with Recommendation ITU-R F.1613-0. In addition, the fixed service shall not claim protection from the radiodetermination, Earth exploration-satellite (active) and space research (active) services, but the provisions of No. 5.43A do not apply to the fixed service with respect to the Earth exploration-satellite (active) and space research (active) services. After implementation of fixed wireless access systems in the fixed service with protection for the existing radiodetermination systems, no more stringent constraints should be imposed on the fixed wireless access systems by future radiodetermination implementations. (WRC-15)

5.447F In the frequency band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendations ITU-R M.1638-0 and ITU-R RS.1632-0. (WRC-15)

5.448 Additional allocation: in Azerbaijan, Kyrgyzstan, Romania and Turkmenistan, the band 5 250-5 350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

5.448A The Earth exploration-satellite (active) and space research (active) services in the frequency band 5 250-5 350 MHz shall not claim protection from the radiolocation service. No. 5.43A does not apply. (WRC-03)

5.448B The Earth exploration-satellite service (active) operating in the band 5 350-5 570 MHz and space research service (active) operating in the band 5 460-5 570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5 350-5 460 MHz, the radionavigation service in the band 5 460-5 470 MHz and the maritime radionavigation service in the band 5 470-5 570 MHz. (WRC-03)

5.448C The space research service (active) operating in the band 5 350-5 460 MHz shall not cause harmful interference to nor claim protection from other services to which this band is allocated. (WRC-03)

5.448D In the frequency band 5 350-5 470 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the aeronautical radionavigation service operating in accordance with No.

5.449. (WRC-03)

5.449 The use of the band 5 350-5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

5.450 Additional allocation: in Austria, Azerbaijan, Iran (Islamic Republic of), Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 5 470-5 650 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)

5.450A In the frequency band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638-0. (WRC-15)

5.450B In the frequency band 5 470-5 650 MHz, stations in the radiolocation service, except ground-based radars used for meteorological purposes in the band 5 600-5 650 MHz, shall not cause harmful interference to, nor claim protection from, radar systems in the maritime radionavigation service. (WRC-03)

5.451 Additional allocation: in the United Kingdom, the band 5 470-5 850 MHz is also allocated to the land mobile service on a secondary basis. The power limits specified in Nos. 21.2, 21.3, 21.4 and 21.5 shall apply in the band 5 725-5 850 MHz.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.452 Between 5 600 MHz and 5 650 MHz, ground-based radars used for - 162 - meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.

5.453 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Niger, Nigeria, Oman, Uganda, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Sri Lanka, Swaziland, Tanzania, Chad, Thailand, Togo, Viet Nam and Yemen, the band 5 650-5 850 MHz is also allocated to the fixed and mobile services on a primary basis. In this case, the provisions of Resolution 229 (Rev.WRC-12) do not apply. (WRC-12)

5.454 Different category of service: in Azerbaijan, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 5 670-5 725 MHz to the space research service is on a primary basis (see No. 5.33). (WRC-12)
5.455 Additional allocation: in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5 670-5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-07)

5.456 Not used. (WRC-15)

5.457 In Australia, Burkina Faso, Cote d'Ivoire, Mali and Nigeria, the allocation to the fixed service in the bands 6 440-6 520 MHz (HAPS-to-ground direction) and 6 560-6 640 MHz (ground-to-HAPS direction) may also be used by gateway links for high-altitude platform stations (HAPS) within the territory of these countries. Such use is limited to operation in HAPS gateway links and shall not cause harmful interference to, and shall not claim protection from, existing services, and shall be in compliance with Resolution 150 (WRC-12). Existing services shall not be constrained in future development by HAPS gateway links. The use of HAPS gateway links in these bands requires explicit agreement with other administrations whose territories are located within 1 000 kilometres from the border of an administration intending to use the HAPS gateway links. (WRC-12)

5.457A In the frequency bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations located on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution 902 (WRC-03). In the frequency band 5 925-6 425 MHz, earth stations located on board vessels and communicating with space stations of the fixed-satellite service may employ transmit antennas with minimum diameter of 1.2 m and operate without prior agreement of any administration if located at least 330 km away from the low-water mark as officially recognized by the coastal State. All other provisions of Resolution 902 (WRC-03) shall apply. (WRC-15)

5.457B In the frequency bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations located on board vessels may operate with the characteristics and under the conditions contained in Resolution 902 (WRC-03) in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Jordan, Kuwait, Libya, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, in the maritime mobile-satellite service on a secondary basis. Such use shall be in accordance with Resolution 902 (WRC-03). (WRC-15)

5.457C In Region 2 (except Brazil, Cuba, French overseas departments and communities, Guatemala, Mexico, Paraguay, Uruguay and Venezuela), the frequency band 5 925-6 700 MHz may be used for aeronautical mobile

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

telemetry for flight testing by aircraft stations (see No. 1.83). Such use shall be in accordance with Resolution 416 (WRC 07) and shall not cause harmful interference to, or claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of this frequency band by other mobile service applications or by other services to which this frequency band is allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-15)

5.458 In the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075-7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6 425-7 025 MHz and 7 075-7 250 MHz.

5.458A In making assignments in the band 6 700-7 075 MHz to space stations of the fixed-satellite service, administrations are urged to take all practicable steps to protect spectral line observations of the radio astronomy service in the band 6 650-6 675.2 MHz from harmful interference from unwanted emissions.

5.458B The space-to-Earth allocation to the fixed-satellite service in the band 6 700-7 075 MHz is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service and is subject to coordination under No. 9.11A. The use of the band 6 700-7 075 MHz (space-to-Earth) by feeder links for non-geostationary satellite systems in the mobile-satellite service is not subject to No. 22.2.

5.458C Not used.

5.459 Additional allocation: in the Russian Federation, the frequency bands 7 100-7 155 MHz and 7 190-7 235 MHz are also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. In the frequency band 7 190-7 235 MHz, with respect to the Earth exploration-satellite service (Earth-to-space), No. 9.21 does not apply. (WRC-15)

5.460 No emissions from space research service (Earth-to-space) systems intended for deep space shall be effected in the frequency band 7 190-7 235 MHz. Geostationary satellites in the space research service operating in the frequency band 7 190-7 235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. 5.43A does not apply. (WRC-15)

5.460A The use of the frequency band 7 190-7 250 MHz (Earth-to-space) by the Earth exploration-satellite service shall be limited to tracking, telemetry and command for the operation of spacecraft. Space stations operating in the Earth exploration-satellite service (Earth-to-space) in the frequency band 7 190-7 250 MHz shall not claim protection from existing and future stations in the fixed and mobile services, and No. 5.43A does not apply. No. 9.17 applies. Additionally, to ensure protection of the existing and future deployment of fixed and mobile services, the location of earth stations supporting spacecraft in the Earth exploration-satellite service in non-geostationary orbits or geostationary orbit shall maintain a separation distance of at least 10 km and 50 km, respectively, from the respective border(s) of neighbouring countries, unless a shorter distance is otherwise agreed between the corresponding administrations. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.460B Space stations on the geostationary orbit operating in the Earth exploration-satellite service (Earth-to-space) in the frequency band 7 190-7 235 MHz shall not claim protection from existing and future stations of the space research service, and No. 5.43A does not apply. (WRC-15)

5.461 Additional allocation: the bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21.

5.461A The use of the band 7 450-7 550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary-satellite systems. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime. (WRC-97)

5.461AA The use of the frequency band 7 375-7 750 MHz by the maritime mobile-satellite service is limited to geostationary-satellite networks. (WRC-15)

5.461AB In the frequency band 7 375-7 750 MHz, earth stations in the maritime mobile-satellite service shall not claim protection from, nor constrain the use and development of, stations in the fixed and mobile, except aeronautical mobile, services. No. 5.43A does not apply. (WRC-15)

5.461B The use of the band 7 750-7 900 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-12)

5.462 (SUP - WRC-97)

5.462A In Regions 1 and 3 (except for Japan), in the band 8 025-8 400 MHz, the Earth exploration-satellite service using geostationary satellites shall not produce a power flux-density in excess of the following values for angles of arrival (θ), without the consent of the affected administration: −135 dB (W/m2) in a 1 MHz band for 0º ≤ θ < 5º –135+ 0.5 (θ – 5) dB (W/m2) in a 1 MHz band for 5º ≤ θ < 25º –125 dB (W/m2) in a 1 MHz band for 25º ≤ θ ≤ 90º (WRC-12)

5.463 Aircraft stations are not permitted to transmit in the band 8 025-8 400 MHz. (WRC-97)

5.464 (SUP - WRC-97)

5.465 In the space research service, the use of the band 8 400-8 450 MHz is limited to deep space.

5.466 Different category of service: in Singapore and Sri Lanka, the allocation of the band 8 400-8 500 MHz to the space research service is on a secondary basis (see No. 5.32). (WRC-12)

5.467 (SUP - WRC-03)

5.468 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, Congo (Rep. of the), Djibouti, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Uganda, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Sudan,

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Swaziland, Chad, Togo, Tunisia and Yemen, the frequency band 8 500-8 750 MHz is also allocated to - 164 - the fixed and mobile services on a primary basis. (WRC-15)

5.469 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Lithuania, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Rep., Romania, Tajikistan, Turkmenistan and Ukraine, the band 8 500-8 750 MHz is also allocated to the land mobile and radionavigation services on a primary basis. (WRC-12)

5.469A In the band 8 550-8 650 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service. (WRC-97)

5.470 The use of the band 8 750-8 850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8 800 MHz.

5.471 Additional allocation: in Algeria, Germany, Bahrain, Belgium, China, Egypt, the United Arab Emirates, France, Greece, Indonesia, Iran (Islamic Republic of), Libya, the Netherlands, Qatar and Sudan, the frequency bands 8 825-8 850 MHz and 9 000-9 200 MHz are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only. (WRC-15)

5.472 In the bands 8 850-9 000 MHz and 9 200-9 225 MHz, the maritime radionavigation service is limited to shore-based radars.

5.473 Additional allocation: in Armenia, Austria, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Romania, Tajikistan, Turkmenistan and Ukraine, the bands 8 850- 9 000 MHz and 9 200-9 300 MHz are also allocated to the radionavigation service on a primary basis. (WRC-07)

5.473A In the band 9 000-9 200 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, systems identified in No. 5.337 operating in the aeronautical radionavigation service, or radar systems in the maritime radionavigation service operating in this band on a primary basis in the countries listed in No. 5.471. (WRC-07)

5.474 In the band 9 200-9 500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate ITU-R Recommendation (see also Article 31).

5.474A The use of the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz by the Earth exploration-satellite service (active) is limited to systems requiring necessary bandwidth greater than 600 MHz that cannot be fully accommodated within the frequency band 9 300-9 900 MHz. Such use is subject to agreement to be obtained under No. 9.21 from Algeria, Saudi Arabia, Bahrain, Egypt, Indonesia, Iran (Islamic Republic of), Lebanon and Tunisia. An administration that has not replied under No. 9.52 is considered as not having agreed to the coordination request. In this case, the notifying administration of the satellite system operating in the Earth exploration-satellite service (active) may request the assistance of the Bureau under Sub-Section IID of Article 9. (WRC-15)

5.474B Stations operating in the Earth exploration-satellite (active) service shall comply with Recommendation ITU-R RS.2066 0. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.474C Stations operating in the Earth exploration-satellite (active) service shall comply with Recommendation ITU-R RS.2065 0. (WRC-15)

5.474D Stations in the Earth exploration-satellite service (active) shall not cause harmful interference to, or claim protection from, stations of the maritime radionavigation and radiolocation services in the frequency band 9 200-9 300 MHz, the radionavigation and radiolocation services in the frequency band 9 900-10 000 MHz and the radiolocation service in the frequency band 10.0-10.4 GHz. (WRC-15)

5.475 The use of the band 9 300-9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9 300-9 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. (WRC-07)

5.475A The use of the band 9 300-9 500 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 300 MHz that cannot be fully accommodated within the 9 500-9 800 MHz band. (WRC-07)

5.475B In the band 9 300-9 500 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, radars operating in the radionavigation service in conformity with the Radio Regulations. Ground-based radars used for meteorological purposes have priority over other radiolocation uses. (WRC-07)

5.476 (SUP - WRC-07)

5.476A In the band 9 300-9 800 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference - 165 - to, nor claim protection from, stations of the radionavigation and radiolocation services. (WRC-07)

5.477 Different category of service: in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Uganda, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Trinidad and Tobago, and Yemen, the allocation of the frequency band 9 800-10 000 MHz to the fixed service is on a primary basis (see No. 5.33). (WRC-15)

5.478 Additional allocation: in Azerbaijan, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 9 800-10 000 MHz is also allocated to the radionavigation service on a primary basis. (WRC-07)

5.478A The use of the band 9 800-9 900 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the 9 300-9 800 MHz band. (WRC-07)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.478B In the band 9 800-9 900 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from stations of the fixed service to which this band is allocated on a secondary basis. (WRC-07)

5.479 The band 9 975-10 025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.

5.480 Additional allocation: in Argentina, Brazil, Chile, Cuba, El Salvador, Ecuador, Guatemala, Honduras, Paraguay, the Netherlands Antilles, Peru and Uruguay, the frequency band 10-10.45 GHz is also allocated to the fixed and mobile services on a primary basis. In Colombia, Costa Rica, Mexico and Venezuela, the frequency band 10-10.45 GHz is also allocated to the fixed service on a primary basis. (WRC-15)

5.481 Additional allocation: in Algeria, Germany, Angola, Brazil, China, Côte d'Ivoire, El Salvador, Ecuador, Spain, Guatemala, Hungary, Japan, Kenya, Morocco, Nigeria, Oman, Uzbekistan, Pakistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Romania and Uruguay, the frequency band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. In Costa Rica, the frequency band 10.45-10.5 GHz is also allocated to the fixed service on a primary basis. (WRC-15)

5.482 In the band 10.6-10.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed -3 dBW. This limit may be exceeded, subject to agreement obtained under No. 9.21. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Libyan Arab Jamahiriya, Kazakhstan, Kuwait, Lebanon, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan and Viet Nam, this restriction on the fixed and mobile, except aeronautical mobile, service is not applicable. (WRC-07)

5.482A For sharing of the band 10.6-10.68 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile, except aeronautical mobile, services, Resolution 751 (WRC-07) applies. (WRC-07)

5.483 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Tajikistan, Turkmenistan and Yemen, the band 10.68-10.7 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. (WRC-12)

5.484 In Region 1, the use of the band 10.7-11.7 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service.

5.484A The use of the bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.75 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Region 1, 13.75-14.5 GHz (Earth-to-space), 17.8-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 27.5-28.6 GHz (Earth-to-space), 29.5-30 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur - 166 - during their operation shall be rapidly eliminated. (WRC-2000)

5.484B Resolution 155 (WRC-15) shall apply. (WRC-15)

5.485 In Region 2, in the band 11.7-12.2 GHz, transponders on space stations in the fixed-satellite service may be used additionally for transmissions in the broadcasting-satellite service, provided that such transmissions do not have a maximum e.i.r.p. greater than 53 dBW per television channel and do not cause greater interference or require more protection from interference than the coordinated fixed-satellite service frequency assignments. With respect to the space services, this band shall be used principally for the fixed-satellite service.

5.486 Different category of service: in the United States, the allocation of the frequency band 11.7-12.1 GHz to the fixed service is on a secondary basis (see No. 5.32). (WRC-15)

5.487 In the band 11.7-12.5 GHz in Regions 1 and 3, the fixed, fixed-satellite, mobile, except aeronautical mobile, and broadcasting services, in accordance with their respective allocations, shall not cause harmful interference to, or claim protection from, broadcasting-satellite stations operating in accordance with the Regions 1 and 3 Plan in Appendix 30. (WRC-03)

5.487A Additional allocation: in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non-geostationary systems and subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the broadcasting-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-03)

5.488 The use of the band 11.7-12.2 GHz by geostationary-satellite networks in the fixed-satellite service in Region 2 is subject to application of the provisions of No. 9.14 for coordination with stations of terrestrial services in Regions 1, 2 and 3. For the use of the band 12.2-12.7 GHz by the broadcasting-satellite service in Region 2, see Appendix 30. (WRC-03)

5.489 Additional allocation: in Peru, the band 12.1-12.2 GHz is also allocated to the fixed service on a primary basis.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.490 In Region 2, in the band 12.2-12.7 GHz, existing and future terrestrial radiocommunication services shall not cause harmful interference to the space services operating in conformity with the broadcasting-satellite Plan for Region 2 contained in Appendix 30.

5.491 (SUP - WRC-03)

5.492 Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan or included in the Regions 1 and 3 List in Appendix 30 may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference, than the broadcasting-satellite service transmissions operating in conformity with the Plan or the List, as appropriate. (WRC-2000)

5.493 The broadcasting-satellite service in the band 12.5-12.75 GHz in Region 3 is limited to a power flux-density not exceeding –111 dB (W/ (m2 · 27 MHz)) for all conditions and for all methods of modulation at the edge of the service area. (WRC-97)

5.494 Additional allocation: in Algeria, Saudi Arabia, Bahrain, Cameroon, the Central African Rep., Congo (Rep. of the), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Madagascar, Mali, Morocco, Mongolia, Nigeria, Oman, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the frequency band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-15)

5.495 Additional allocation: in France, Greece, Monaco, Montenegro, Uganda, Romania and Tunisia, the frequency band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-15)

5.496 Additional allocation: in Austria, Azerbaijan, Kyrgyzstan and Turkmenistan, the band 12.5-12.75 GHz is also allocated to the fixed service and the mobile, except aeronautical mobile, service on a primary basis. However, stations in these services shall not cause harmful interference to fixed-satellite service earth stations of countries in Region 1 other than those listed in this footnote. Coordination - 167 - of these earth stations is not required with stations of the fixed and mobile services of the countries listed in this footnote. The power flux-density limit at the Earth's surface given in Table 21-4 of Article 21, for the fixed-satellite service shall apply on the territory of the countries listed in this footnote. (WRC-2000)

5.497 The use of the band 13.25-13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.

5.498 (SUP - WRC-97) 5.498A The Earth exploration-satellite (active) and space research (active) services operating in the band 13.25-13.4 GHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service. (WRC-97)

5.499 Additional allocation: in Bangladesh and India, the band 13.25-14 GHz is also allocated to the fixed service on a primary basis. In Pakistan, the band 13.25-13.75 GHz is allocated to the fixed service on a primary basis. (WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.499A The use of the frequency band 13.4-13.65 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary-satellite systems and is subject to agreement obtained under No. 9.21 with respect to satellite systems operating in the space research service (space-to-space) to relay data from space stations in the geostationary-satellite orbit to associated space stations in non-geostationary satellite orbits for which advance publication information has been received by the Bureau by 27 November 2015. (WRC-15)

5.499B Administrations shall not preclude the deployment and operation of transmitting earth stations in the standard frequency and time signal-satellite service (Earth-to-space) allocated on a secondary basis in the frequency band 13.4-13.65 GHz due to the primary allocation to FSS (space-to-Earth). (WRC-15)

5.499C The allocation of the frequency band 13.4-13.65 GHz to the space research service on a primary basis is limited to:

- satellite systems operating in the space research service (space-to-space) to relay data from space stations in the geostationary-satellite orbit to associated space stations in non-geostationary satellite orbits for which advance publication information has been received by the Bureau by 27 November 2015,
- active spaceborne sensors, – satellite systems operating in the space research service (space-to-Earth) to relay data from space stations in the geostationary-satellite orbit to associated earth stations. Other uses of the frequency band by the space research service are on a secondary basis. (WRC-15)

5.499D In the frequency band 13.4-13.65 GHz, satellite systems in the space research service (space-to-Earth) and/or the space research service (space-to-space) shall not cause harmful interference to, nor claim protection from, stations in the fixed, mobile, radiolocation and Earth exploration-satellite (active) services. (WRC-15)

5.499E In the frequency band 13.4-13.65 GHz, geostationary-satellite networks in the fixed-satellite service (space-to-Earth) shall not claim protection from space stations in the Earth exploration-satellite service (active) operating in accordance with these Regulations, and No. 5.43A does not apply. The provisions of No. 22.2 do not apply to the Earth exploration-satellite service (active) with respect to the fixed-satellite service (space-to-Earth) in this frequency band. (WRC-15)

5.500 Additional allocation: in Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Morocco, Mauritania, Niger, Nigeria, Oman, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Chad and Tunisia, the frequency band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis. In Pakistan, the frequency band 13.4-13.75 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-15)

5.501 Additional allocation: in Azerbaijan, Hungary, Japan, Kyrgyzstan, Romania and Turkmenistan, the band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

5.501A The allocation of the frequency band 13.65-13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the frequency band by the space research service are on a secondary basis. (WRC-15)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.501B In the band 13.4-13.75 GHz, the Earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, or constrain the use and development of, the radiolocation service. (WRC-97)

5.502 In the band 13.75-14 GHz, an earth station of a geostationary fixed-satellite service network shall have a minimum antenna diameter of 1.2 m and an earth station of a non-geostationary fixed-satellite service system shall have a minimum antenna - 168 - diameter of 4.5 m. In addition, the e.i.r.p., averaged over one second, radiated by a station in the radiolocation or radionavigation services shall not exceed 59 dBW for elevation angles above 2° and 65 dBW at lower angles. Before an administration brings into use an earth station in a geostationary-satellite network in the fixed-satellite service in this band with an antenna diameter smaller than 4.5 m, it shall ensure that the power flux-density produced by this earth station does not exceed:

- –115 dB (W/ (m2 · 10 MHz)) for more than 1% of the time produced at 36 m above sea level at the low water mark, as officially recognized by the coastal State;
- –115 dB (W/ (m2 · 10 MHz)) for more than 1% of the time produced 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained. For earth stations within the fixed-satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. (WRC-03)

5.503 In the band 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band: – in the band 13.77-13.78 GHz, the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in geostationary-satellite orbit shall not exceed:

i) 4.7D +28 dB(W/40 kHz), where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 m;

ii) 49.2 +20 log(D/4.5) dB(W/40 kHz), where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;

iii) 66.2 dB (W/40 kHz) for any fixed-satellite service earth station for antenna diameters (m) equal to or greater than 31.9 m;

iv) 56.2 dB (W/4 kHz) for narrow-band (less than 40 kHz of necessary bandwidth) fixed-satellite service earth station emissions from any fixed-satellite service earth station having an antenna diameter of 4.5 m or greater; – the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz.

Automatic power control may be used to increase the e.i.r.p. density in these frequency ranges to compensate for rain attenuation, to the extent that the power flux-density at the fixed-satellite service space station does not exceed the value resulting from use by an earth station of an e.i.r.p. meeting the above limits in clear-sky conditions. (WRC-03)

5.503A (SUP - WRC-03)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.504 The use of the band 14-14.3 GHz by the radionavigation service shall be such as to provide sufficient protection to space stations of the fixed-satellite service.

5.504A In the band 14-14.5 GHz, aircraft earth stations in the secondary aeronautical mobile-satellite service may also communicate with space stations in the fixed-satellite service. The provisions of Nos. 5.29, 5.30 and 5.31 apply. (WRC-03)

5.504B Aircraft earth stations operating in the aeronautical mobile-satellite service in the frequency band 14-14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643-0, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz frequency band located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-15)

5.504C In the frequency band 14-14.25 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Bahrain, Botswana, Côte d'Ivoire, Egypt, Guinea, India, Iran (Islamic Republic of), Kuwait, Nigeria, Oman, the Syrian Arab Republic and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643-0, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-15)

5.505 Additional allocation: in Algeria, Saudi Arabia, Bahrain, Botswana, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Djibouti, Egypt, - 169 - the United Arab Emirates, Gabon, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Swaziland, Chad, Viet Nam and Yemen, the frequency band 14-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-15)

5.506 The band 14-14.5 GHz may be used, within the fixed-satellite service (Earth-to-space), for feeder links for the broadcasting-satellite service, subject to coordination with other networks in the fixed-satellite service. Such use of feeder links is reserved for countries outside Europe.

5.506A In the band 14-14.5 GHz, ship earth stations with an e.i.r.p. greater than 21 dBW shall operate under the same conditions as earth stations located on board vessels, as provided in Resolution 902 (WRC-03). This footnote shall not apply to ship earth stations for which the complete Appendix 4 information has been received by the Bureau prior to 5 July 2003. (WRC-03)

5.506B Earth stations located on board vessels communicating with space stations in the fixed-satellite service may operate in the frequency band 14-14.5 GHz without the need for prior agreement from Cyprus and Malta, within the minimum distance given in Resolution 902 (WRC 03) from these countries. (WRC-15)

5.507 Not used.

5.508 Additional allocation: in Germany, France, Italy, Libya, The Former Yugoslav Rep. of Macedonia and the United Kingdom, the band 14.25-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.508A In the frequency band 14.25-14.3 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Bahrain, Botswana, China, Côte d'Ivoire, Egypt, France, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643-0, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-15)

5.509 (SUP - WRC-07)

5.509A In the frequency band 14.3-14.5 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Bahrain, Botswana, Cameroon, China, Côte d'Ivoire, Egypt, France, Gabon, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Morocco, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom, Sri Lanka, Tunisia and Viet Nam by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643-0, unless otherwise specifically agreed by the affected administration(s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-15)

5.509B The use of the frequency bands 14.5-14.75 GHz in countries listed in Resolution 163 (WRC-15) and 14.5-14.8 GHz in countries listed in Resolution 164 (WRC-15) by the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service is limited to geostationary-satellites. (WRC-15)

5.509C For the use of the frequency bands 14.5-14.75 GHz in countries listed in Resolution 163 (WRC-15) and 14.5-14.8 GHz in countries listed in Resolution 164 (WRC-15) by the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service, the fixed-satellite service earth stations shall have a minimum antenna diameter of 6 m and a maximum power spectral density of −44.5 dBW/Hz at the input of the antenna. The earth stations shall be notified at known locations on land. (WRC-15)

5.509D Before an administration brings into use an earth station in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service in the frequency bands 14.5-14.75 GHz (in countries listed in Resolution 163 (WRC-15)) and 14.5-14.8 GHz (in countries listed in Resolution 164 (WRC-15)), it shall ensure that the power flux-density produced by this earth station does not exceed −151.5 dB(W/(m2 • 4 kHz)) produced at all altitudes from 0 m to 19 000 m above sea level at 22 km seaward from all coasts, defined as the low-water mark, as officially recognized by each coastal State. (WRC-15)

5.509E In the frequency bands 14.50-14.75 GHz in countries listed in Resolution 163 (WRC-15) and 14.50-14.8 GHz in countries listed in Resolution 164 (WRC-15), the location of earth stations in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall maintain a separation distance of at least 500 km from the border(s) of other countries unless shorter distances are explicitly agreed by those administrations. No. 9.17 does not apply. When applying this provision, administrations should consider the relevant parts of these Regulations and the latest relevant ITU-R Recommendations. (WRC-15)

5.509F In the frequency bands 14.50-14.75 GHz in countries listed in Resolution 163 (WRC-15) and 14.50-14.8 GHz in countries listed in Resolution 164 (WRC-15), earth stations in the fixed-satellite service (Earth-to-space) not for feeder

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

links for the broadcasting-satellite service shall not constrain the future deployment of the fixed and mobile services. (WRC-15)

5.509G The frequency band 14.5-14.8 GHz is also allocated to the space research service on a primary basis. However, such use is limited to the satellite systems operating in the space research service (Earth-to-space) to relay data to space stations in the geostationary-satellite orbit from associated earth stations. Stations in the space research service shall not cause harmful interference to, or claim protection from, stations in the fixed and mobile services and in the fixed-satellite service limited to feeder links for the broadcasting-satellite service and associated space operations functions using the guard bands under Appendix 30A and feeder links for the broadcasting-satellite service in Region 2. Other uses of this frequency band by the space research service are on a secondary basis. (WRC-15)

5.510 Except for use in accordance with Resolution 163 (WRC-15) and Resolution 164 (WRC-15), the use of the frequency band 14.5-14.8 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. This use is reserved for countries outside Europe. Uses other than feeder links for the broadcasting-satellite service are not authorized in Regions 1 and 2 in the frequency band 14.75-14.8 GHz. (WRC-15)

5.511 Additional allocation: in Saudi Arabia, Bahrain, Cameroon, Egypt, the United Arab Emirates, Guinea, Iran (Islamic Republic of), Iraq, Israel, Kuwait, Lebanon, Oman, Pakistan, Qatar, the Syrian Arab Republic and Somalia, the band 15.35-15.4 GHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

5.511A Use of the frequency band 15.43-15.63 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. 9.11A. (WRC-15)

5.511B (SUP - WRC-97)

5.511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340-0. The minimum coordination distance required to protect the aeronautical radionavigation stations (No. 4.10 applies) from harmful interference from feeder-link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder-link earth station shall be in accordance with Recommendation ITU-R S.1340-0. (WRC-15)

5.511D Not used.

5.511E In the frequency band 15.4-15.7 GHz, stations operating in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the aeronautical radionavigation service. (WRC-12)

5.511F In order to protect the radio astronomy service in the frequency band 15.35-15.4 GHz, radiolocation stations operating in the frequency band 15.4-15.7 GHz shall not exceed the power flux-density level of -156 dB (W/m2) in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy observatory site for more than 2 per cent of the time. (WRC-12)

5.512 Additional allocation: in Algeria, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Congo (Rep. of the), Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Montenegro, Nepal,

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Nicaragua, Niger, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the frequency band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-15)

5.513 Additional allocation: in Israel, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. 5.512.

5.513A Spaceborne active sensors operating in the band 17.2-17.3 GHz shall not cause harmful interference to, or constrain the development of, the radiolocation and other services allocated on a primary basis. (WRC-97)

5.514 Additional allocation: in Algeria, Saudi Arabia, Bahrain, Bangladesh, Cameroon, El Salvador, the United Arab Emirates, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, Japan, Jordan, Kuwait, Libya, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan, Sudan and South Sudan, the frequency band 17.3-17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. 21.3 and 21.5 shall apply. (WRC-15)
5.515 In the band 17.3-17.8 GHz, sharing between the fixed-satellite service (Earth-to-space) and the broadcasting-satellite service shall also be in accordance with the provisions of § 1 of Annex 4 of Appendix 30A.

5.516 The use of the band 17.3-18.1 GHz by geostationary-satellite systems in the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. The use of the band 17.3-17.8 GHz in Region 2 by systems in the fixed-satellite service (Earth-to-space) is limited to geostationary satellites. For the use of the band 17.3-17.8 GHz in Region 2 by feeder links for the broadcasting-satellite service in the band 12.2-12.7 GHz, see Article 11. The use of the bands 17.3-18.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8-18.1 GHz (Earth-to-space) in Region 2 by non-geostationary-satellite systems in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. (WRC-2000)

5.516A In the band 17.3-17.7 GHz, earth stations of the fixed-satellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link. (WRC-03)

5.516B The following bands are identified for use by high-density applications in the fixed-satellite service: 17.3-17.7 GHz (space-to-Earth) in Region 1, 18.3-19.3 GHz (space-to-Earth) in Region 2, 19.7-20.2 GHz (space-to-Earth) in all Regions, 39.5-40 GHz (space-to-Earth) in Region 1, 40-40.5 GHz (space-to-Earth) in all Regions, 40.5-42 GHz (space-to-Earth) in Region 2, 47.5-47.9 GHz (space-to-Earth) in Region 1, 48.2-48.54 GHz (space-to-Earth) in Region 1, 49.44-50.2 GHz (space-to-Earth) in Region 1, and 27.5-27.82 GHz (Earth-to-space) in Region 1, 28.35-28.45 GHz (Earth-to-space)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

in Region 2, 28.45-28.94 GHz (Earth-to-space) in all Regions, 28.94-29.1 GHz (Earth-to-space) in Region 2 and 3, 29.25-29.46 GHz (Earth-to-space) in Region 2, 29.46-30 GHz (Earth-to-space) in all Regions, 48.2-50.2 GHz (Earth-to-space) in Region 2. This identification does not preclude the use of these bands by other fixed-satellite service applications or by other services to which these bands are allocated on a co-primary basis and does not establish priority in these Radio Regulations among users of the bands. Administrations should take this into account when considering regulatory provisions in relation to these bands. See Resolution 143 (WRC-03). (WRC-03)

5.517 In Region 2, use of the fixed-satellite (space-to-Earth) service in the band 17.7-17.8 GHz shall not cause harmful interference to nor claim protection from assignments in the broadcasting-satellite service operating in conformity with the Radio Regulations. (WRC-07)

5.518 (SUP - WRC-07)

5.519 Additional allocation: the bands 18-18.3 GHz in Region 2 and 18.1-18.4 GHz in Regions 1 and 3 are also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Their use is limited to geostationary satellites. (WRC-07)

5.520 The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of geostationary-satellite systems in the broadcasting-satellite service. (WRC-2000)

5.521 Alternative allocation: in the United Arab Emirates and Greece, the frequency band 18.1-18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis (see No. 5.33). The provisions of No. 5.519 also apply. (WRC-15)

5.522 (SUP - WRC-2000)

5.522A The emissions of the fixed service and the fixed-satellite service in the band - 172 - 18.6-18.8 GHz are limited to the values given in Nos. 21.5A and 21.16.2, respectively. (WRC-2000)

5.522B The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20 000 km. (WRC-2000)

5.522C In the band 18.6-18.8 GHz, in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, the Libyan Arab Jamahiriya, Jordan, Lebanon, Morocco, Oman, Qatar, the Syrian Arab Republic, Tunisia and Yemen, fixed-service systems in operation at the date of entry into force of the Final Acts of WRC-2000 are not subject to the limits of No. 21.5A. (WRC-2000)

5.523 (SUP - WRC-2000)

5.523A The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) by geostationary and non-geostationary fixed-satellite service networks is subject to the application of the provisions of No. 9.11A and No. 22.2 does not apply. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. 9.11A with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix 4 notification information is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

5.523B The use of the band 19.3-19.6 GHz (Earth-to-space) by the fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, and No. 22.2 does not apply.

5.523C No. 22.2 shall continue to apply in the bands 19.3-19.6 GHz and 29.1-29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

5.523D The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos.5.523C and 5.523E, is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)

5.523E No. 22.2 shall continue to apply in the bands 19.6-19.7 GHz and 29.4-29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix 4 coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)

5.524 Additional allocation: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Chad, Togo and Tunisia, the frequency band 19.7-21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed-satellite service in the frequency band 19.7-21.2 GHz and of space stations in the mobile-satellite service in the frequency band 19.7-20.2 GHz where the allocation to the mobile-satellite service is on a primary basis in the latter frequency band. (WRC-15)

5.525 In order to facilitate interregional coordination between networks in the mobile-satellite and fixed-satellite services, carriers in the mobile-satellite service that are most susceptible to interference shall, to the extent practicable, be located in the higher parts of the bands 19.7-20.2 GHz and 29.5-30 GHz.

5.526 In the bands 19.7-20.2 GHz and 29.5-30 GHz in Region 2, and in the bands 20.1-20.2 GHz and 29.9-30 GHz in Regions 1 and 3, networks which are both in the fixed-satellite service and in the mobile-satellite service may include links between earth stations at specified or unspecified points or while in motion, through one or more satellites for point-to-point and point-to-multipoint communications.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.527 In the bands 19.7-20.2 GHz and 29.5-30 GHz, the provisions of No. 4.10 do not apply with respect to the mobile-satellite service. 5.527A The operation of earth stations in motion communicating with the FSS is subject to Resolution 156 (WRC-15). (WRC-15)

5.528 The allocation to the mobile-satellite service is intended for use by networks which use narrow spot-beam antennas and other advanced technology at the space stations. Administrations operating systems in the mobile-satellite service in the band 19.7-20.1 GHz in Region 2 and in the band 20.1-20.2 GHz shall take all practicable steps to ensure the continued availability of these bands for administrations operating fixed and mobile systems in accordance with the provisions of No. 5.524.

5.529 The use of the bands 19.7-20.1 GHz and 29.5-29.9 GHz by the mobile-satellite service in Region 2 is limited to satellite networks which are both in the fixed-satellite service and in the mobile-satellite service as described in No. 5.526.

5.530 (SUP - WRC-12)

5.530A Unless otherwise agreed between the administrations concerned, any station in the fixed or mobile services of an administration shall not produce a power flux-density in excess of −120.4 dB (W/ (m2 • MHz)) at 3 m above the ground of any point of the territory of any other administration in Regions 1 and 3 for more than 20% of the time. In conducting the calculations, administrations should use the most recent version of Recommendation ITU-R P.452 (see also the most recent version of Recommendation ITU-R BO.1898). (WRC-15)

5.530B In the band 21.4-22 GHz, in order to facilitate the development of the broadcasting-satellite service, administrations in Regions 1 and 3 are encouraged not to deploy stations in the mobile service and are encouraged to limit the deployment of stations in the fixed service to point-to-point links. (WRC-12)

5.530C Not used.

5.530D See Resolution 555 (WRC-12). (WRC-12)

5.531 Additional allocation: in Japan, the band 21.4-22 GHz is also allocated to the broadcasting service on a primary basis.

5.532 The use of the band 22.21-22.5 GHz by the Earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services.

5.532A The location of earth stations in the space research service shall maintain a separation distance of at least 54 km from the respective border(s) of neighbouring countries to protect the existing and future deployment of fixed and mobile services unless a shorter distance is otherwise agreed between the corresponding administrations. Nos. 9.17 and 9.18 do not apply. (WRC-12)

5.532B Use of the band 24.65-25.25 GHz in Region 1 and the band 24.65-24.75 GHz in Region 3 by the fixed satellite service (Earth-to-space) is limited to earth stations using a minimum antenna diameter of 4.5 m. (WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.533 The inter-satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.

5.534 (SUP - WRC-03)

5.535 In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feeder-link networks to such broadcasting satellite stations.

5.535A The use of the band 29.1-29.5 GHz (Earth-to-space) by the fixed-satellite service is limited to geostationary-satellite systems and feeder links to non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. 22.2, except as indicated in Nos. 5.523C and 5.523E where such use is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. 22.2. (WRC-97)

5.536 Use of the 25.25-27.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.

5.536A Administrations operating earth stations in the Earth exploration-satellite service or the space research service shall not claim protection from stations in the fixed and mobile services operated by other administrations. In addition, earth stations in the Earth exploration-satellite service or in the space research service should be operated taking into account the most recent version of Recommendation ITU-R SA.1862. (WRC-12)

5.536B In Saudi Arabia, Austria, Bahrain, Belgium, Brazil, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Estonia, Finland, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Sweden, Tanzania, Turkey, Viet Nam and Zimbabwe, earth stations operating in the Earth exploration-satellite service in the frequency band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-15)

5.536C In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Tanzania, Tunisia, Uruguay, Zambia and Zimbabwe, earth stations operating in the space research service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-12)

5.537 Space services using non-geostationary satellites operating in the inter-satellite service in the band 27-27.5 GHz are exempt from the provisions of No. 22.2.

5.537A In Bhutan, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.9-28.2 GHz may also be used by high altitude platform stations (HAPS) within the territory of these countries. Such

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

use of 300 MHz of the fixed-service allocation by HAPS in the above countries is further limited to operation in the HAPS-to-ground direction and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution 145 (Rev.WRC-12). (WRC-12)

5.538 Additional allocation: the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of +10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. (WRC-07)

5.539 The band 27.5-30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder links for the broadcasting-satellite service.

5.540 Additional allocation: the band 27.501-29.999 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.

5.541 In the band 28.5-30 GHz, the earth exploration-satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.

5.541A Feeder links of non-geostationary networks in the mobile-satellite service and geostationary networks in the fixed-satellite service operating in the band 29.1-29.5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix 4 coordination information is considered as having been received by the Bureau after 17 May 1996 and until they are changed by a future competent world radiocommunication conference. Administrations submitting Appendix 4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable. (WRC-2000)

5.542 Additional allocation: in Algeria, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Oman, Pakistan, Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Somalia, Sudan, South Sudan, Sri Lanka and Chad, the band 29.5-31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. 21.3 and 21.5 shall apply. (WRC-12)

5.543 The band 29.95-30 GHz may be used for space-to-space links in the Earth exploration-satellite service for telemetry, tracking, and control purposes, on a secondary basis.

5.543A In Bhutan, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the frequency band 31-31.3 GHz may also be used by systems using high altitude platform stations (HAPS) in the ground-to-HAPS direction. The use of the frequency band 31-31.3 GHz by systems using HAPS is limited to the territory of the countries listed above and shall not cause harmful interference to, nor claim protection from, other types of fixed-

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

service systems, systems in the mobile service and systems operated under No. 5.545. Furthermore, the development of these services shall not be constrained by HAPS. Systems using HAPS in the frequency band 31-31.3 GHz shall not cause harmful interference to the radio astronomy service having a primary allocation in the frequency band 31.3-31.8 GHz, taking into account the protection criterion as given in the most recent version of Recommendation ITU-R - 175 - RA.769. In order to ensure the protection of satellite passive services, the level of unwanted power density into a HAPS ground station antenna in the frequency band 31.3-31.8 GHz shall be limited to −106 dB(W/MHz) under clear-sky conditions, and may be increased up to −100 dB(W/MHz) under rainy conditions to mitigate fading due to rain, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions. See Resolution 145 (Rev.WRC-12) (WRC-15)

5.544 In the band 31-31.3 GHz the power flux-density limits specified in Article 21, Table 21-4 shall apply to the space research service.

5.545 Different category of service: in Armenia, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 31-31.3 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-12)

5.546 Different category of service: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Lebanon, Moldova, Mongolia, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, the United Kingdom, South Africa, Tajikistan, Turkmenistan and Turkey, the allocation of the band 31.5-31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33). (WRC-12)

5.547 The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolution 75 (WRC-2000)). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. 5.516B), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)

5.547A Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8-33.4 GHz band, taking into account the operational needs of the airborne radar systems. (WRC-2000)

5.547B Alternative allocation: in the United States, the band 31.8-32 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-97)

5.547C Alternative allocation: in the United States, the band 32-32.3 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-03)

5.547D Alternative allocation: in the United States, the band 32.3-33 GHz is allocated to the inter-satellite and radionavigation services on a primary basis. (WRC-97)

5.547E Alternative allocation: in the United States, the band 33-33.4 GHz is allocated to the radionavigation service on a primary basis. (WRC-97)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.548 In designing systems for the inter-satellite service in the band 32.3-33 GHz, for the radionavigation service in the band 32-33 GHz, and for the space research service (deep space) in the band 31.8-32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation 707). (WRC-03)

5.549 Additional allocation: in Saudi Arabia, Bahrain, Bangladesh, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, South Sudan, Sri Lanka, Togo, Tunisia and Yemen, the band 33.4-36 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

5.549A In the band 35.5-36.0 GHz, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed −73.3 dB (W/m2) in this band. (WRC-03)

5.550 Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 34.7-35.2 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-12)

5.550A For sharing of the band 36-37 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile services, Resolution 752 (WRC-07) shall apply. (WRC-07)

5.551 (SUP - WRC-97)

5.551A (SUP - WRC-03)

5.551AA (SUP - WRC-03)

5.551B (SUP - WRC-2000)

5.551C (SUP - WRC-2000)

5.551D (SUP - WRC-2000)

5.551E (SUP - WRC-2000)

5.551F Different category of service: in Japan, the allocation of the band 41.5-42.5 GHz to the mobile service is on a primary basis (see No. 5.33). (WRC-97)

5.551G (SUP - WRC-03)

5.551H The equivalent power flux-density (epfd) produced in the frequency band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

service operating in the frequency band 42-42.5 GHz, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:

- 230 dB(W/m2) in 1 GHz and −246 dB(W/m2) in any 500 kHz of the frequency band 42.5-43.5 GHz at the site of any radio astronomy station registered as a single-dish telescope; and
- 209 dB(W/m2) in any 500 kHz of the frequency band 42.5-43.5 GHz at the site of any radio astronomy station registered as a very long baseline interferometry station.

These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586 1 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631-0 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle θ min of the radiotelescope (for which a default value of 5° should be adopted in the absence of notified information).

These values shall apply at any radio astronomy station that either:

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC 03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-15)

5.551I The power flux-density in the band 42.5-43.5 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth), or the broadcasting-satellite service operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:

- 137 dB(W/m2) in 1 GHz and –153 dB(W/m2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
- 116 dB(W/m2) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These values shall apply at the site of any radio astronomy station that either:

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-03)

5.552 The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite - 177 - service operating in the band 40.5-42.5 GHz.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.552A The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is designated for use by high altitude platform stations. The use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz is subject to the provisions of Resolution 122 (Rev.WRC-07). (WRC-07)

5.553 In the bands 43.5-47 GHz and 66-71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. 5.43). (WRC-2000)

5.554 In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 123-130 GHz, 191.8-200 GHz and 252-265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service. (WRC-2000)

5.554A The use of the bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary satellites. (WRC-03)

5.555 Additional allocation: the band 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis. (WRC-2000)

5.555A (SUP - WRC-03)

5.555B The power flux-density in the band 48.94-49.04 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth) operating in the bands 48.2-48.54 GHz and 49.44-50.2 GHz shall not exceed –151.8 dB (W/m2) in any 500 kHz band at the site of any radio astronomy station. (WRC-03)

5.556 In the bands 51.4-54.25 GHz, 58.2-59 GHz and 64-65 GHz, radio astronomy observations may be carried out under national arrangements. (WRC-2000)

5.556A Use of the bands 54.25-56.9 GHz, 57-58.2 GHz and 59-59.3 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed -147 dB (W/(m2 · 100 MHz)) for all angles of arrival. (WRC-97)

5.556B Additional allocation: in Japan, the band 54.25-55.78 GHz is also allocated to the mobile service on a primary basis for low-density use. (WRC-97)

5.557 Additional allocation: in Japan, the band 55.78-58.2 GHz is also allocated to the radiolocation service on a primary basis. (WRC-97)

5.557A In the band 55.78-56.26 GHz, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to –26 dB(W/MHz). (WRC-2000)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.558 In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 122.25-123 GHz, 130-134 GHz, 167-174.8 GHz and 191.8-200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)

5.558A Use of the band 56.9-57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all methods of modulation, shall not exceed –147 dB (W/ (m2 · 100 MHz)) for all angles of arrival. (WRC-97)

5.559 In the band 59-64 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 5.43). (WRC-2000)

5.559A (SUP - WRC-07)

5.559B The use of the frequency band 77.5-78 GHz by the radiolocation service shall be limited to short-range radar for ground-based applications, including automotive radars. The technical characteristics of these radars are provided in the most recent version of Recommendation ITU-R M.2057. The provisions of No. 4.10 do not apply. (WRC-15)

5.560 In the band 78-79 GHz radars located on space stations may be operated on a primary basis in the Earth exploration-satellite service and in the space research service.

5.561 In the band 74-76 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to stations of the fixed-satellite service or stations of the broadcasting-satellite service operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service. (WRC-2000)

5.561A The 81-81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis. (WRC-2000)

5.561B In Japan, use of the band 84-86 GHz, by the fixed-satellite service (Earth-to-space) is limited to feeder links in the broadcasting-satellite service using the geostationary-satellite orbit. (WRC-2000)

5.562 The use of the band 94-94.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars. (WRC-97)

5.562A In the bands 94-94.1 GHz and 130-134 GHz, transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible. (WRC-2000)

5.562B In the bands 105-109.5 GHz, 111.8-114.25 GHz, 155.5-158.5 GHz and 217-226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-2000)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

5.562C Use of the band 116-122.25 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed _148 dB (W/ (m2 · MHz)) for all angles of arrival. (WRC-2000)

5.562D Additional allocation: In Korea (Rep. of), the frequency bands 128-130 GHz, 171-171.6 GHz, 172.2-172.8 GHz and 173.3-174 GHz are also allocated to the radio astronomy service on a primary basis. Radio astronomy stations in Korea (Rep. of) operating in the frequency bands referred to in this footnote shall not claim protection from, or constrain the use and development of, services in other countries operating in accordance with the Radio Regulations. (WRC-15)

5.562E The allocation to the Earth exploration-satellite service (active) is limited to the band 133.5-134 GHz. (WRC-2000)

5.562F In the band 155.5-158.5 GHz, the allocation to the Earth exploration-satellite (passive) and space research (passive) services shall terminate on 1 January 2018. (WRC-2000)

5.562G The date of entry into force of the allocation to the fixed and mobile services in the band 155.5-158.5 GHz shall be 1 January 2018. (WRC-2000)

5.562H Use of the bands 174.8-182 GHz and 185-190 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed -144 dB(W/(m2 · MHz)) for all angles of arrival. (WRC-2000)

5.563 (SUP - WRC-03)

5.563A In the bands 200-209 GHz, 235-238 GHz, 250-252 GHz and 265-275 GHz, ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents. (WRC-2000)

5.563B The band 237.9-238 GHz is also allocated to the Earth exploration-satellite service (active) and the space research service (active) for spaceborne cloud radars only. (WRC-2000)

5.564 (SUP - WRC-2000)

5.565 The following frequency bands in the range 275-1 000 GHz are identified for use by administrations for passive service applications:

- radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

- Earth exploration-satellite service (passive) and space research service (passive): 275-286 GHz, 296-306 GHz, 313-356 GHz, 361-365 GHz, 369-392 GHz, 397-399 GHz, 409-411 GHz, 416-434 GHz, 439-467 GHz, 477-502 GHz, 523-527 GHz, 538-581 GHz, 611-630 GHz, 634-654 GHz, 657-692 GHz, 713-718 GHz, 729-733 GHz, 750-754 GHz, 771-776 GHz, 823-846 GHz, 850-854 GHz, 857-862 GHz, 866-882 GHz, 905-928 GHz, 951-956 GHz, 968-973 GHz and 985-990 GHz.

The use of the range 275-1 000 GHz by the passive services does not preclude use of this range by active services. Administrations wishing to make frequencies in the 275-1 000 GHz range available for active service applications are urged to take all practicable steps to protect these passive services from harmful interference until the date when the Table of Frequency Allocations is established in the above-mentioned 275-1 000 GHz frequency range. - 179 - All frequencies in the range 1 000-3 000 GHz may be used by both active and passive services. (WRC-12)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-C: Definitions of Terms Used in the NTFA

Section I – General terms

- *administration:* Any governmental department or service responsible for discharging the obligations undertaken in the Constitution of the International Telecommunication Union, in the Convention of the International Telecommunication Union and in the Administrative Regulations (CS 1002).
- *telecommunication:* Any transmission, *emission* or reception of signs, signals, writings, images and sounds or intelligence of any nature by wire, *radio*, optical or other electromagnetic systems (CS).
- *radio:* A general term applied to the use of *radio waves*.
- *radio waves* or *hertzian waves:* Electromagnetic waves of frequencies arbitrarily lower than 3 000 GHz, propagated in space without artificial guide.
- *radiocommunication: Telecommunication* by means of *radio waves* (CS) (CV).
- *terrestrial radiocommunication:* Any *radiocommunication* other than *space radiocommunication* or *radio astronomy.*
- *space radiocommunication:* Any *radiocommunication* involving the use of one or more *space stations* or the use of one or more *reflecting satellites* or other objects in space.
- *radiodetermination:* The determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of *radio waves*.
- *radionavigation: Radiodetermination* used for the purposes of navigation,
- including obstruction warning.
- *radiolocation: Radiodetermination* used for purposes other than those of *radionavigation*.
- *radio direction-finding: Radiodetermination* using the reception of *radio waves* for the purpose of determining the direction of a *station* or object.
- *radio astronomy:* Astronomy based on the reception of *radio waves* of cosmic origin.
- *Coordinated Universal Time (UTC):* Time scale, based on the second (SI), as described in Resolution **655 (WRC-15)**. (WRC-15)
- *industrial, scientific and medical (ISM) applications (*of radio frequency energy): Operation of equipment or appliances designed to generate and use locally radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of *telecommunications*.

Section II – Specific terms related to frequency management

- *allocation* (of a frequency band): Entry in the Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more terrestrial or space *radiocommunication services* or the *radio astronomy service* under specified conditions. This term shall also be applied to the frequency band concerned.
- *allotment* (of a radio frequency or radio frequency channel): Entry of a designated frequency channel in an agreed plan, adopted by a competent conference, for use by one or more *administrations* for a terrestrial or space

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

radiocommunication service in one or more identified countries or geographical areas and under specified conditions.

- *assignment* (of a radio frequency or radio frequency channel): Authorization given by an *administration* for a radio *station* to use a radio frequency or radio frequency channel under specified conditions.

Section III – Radio services

- *radiocommunication service:* A service as defined in this Section involving the transmission, *emission* and/or reception of *radio waves* for specific *telecommunication* purposes. In these Regulations, unless otherwise stated, any radiocommunication service relates to *terrestrial radiocommunication*.
- *fixed service: A radiocommunication service* between specified fixed points.
- *fixed-satellite service:* A *radiocommunication service* between *earth stations* at given positions, when one or more *satellites* are used; the given position may be a specified fixed point or any fixed point within specified areas; in some cases, this service includes satellite-to-satellite links, which may also be operated in the *inter-satellite service*; the fixed-satellite service may also include *feeder links* for other *space radiocommunication services*.
- *inter-satellite service:* A *radiocommunication service* providing links between artificial *satellites*
- *space operation service:* A *radiocommunication service* concerned exclusively with the operation of *spacecraft*, in particular *space tracking, space telemetry* and *space telecommand*. These functions will normally be provided within the service in which the *space station* is operating.
- *mobile service:* A *radiocommunication service between mobile* and *land stations*, or between *mobile stations* (CV).
- *mobile-satellite service:* A *radiocommunication service:*
    - between *mobile earth stations* and one or more *space stations*, or between *space stations* used by this service; or
    - between *mobile earth stations* by means of one or more *space stations*. This service may also include *feeder links* necessary for its operation.
- *land mobile service:* A *mobile service* between *base stations* and *land mobile stations*, or between *land mobile stations*.
- *land mobile-satellite service:* A *mobile-satellite service* in which *mobile earth stations* are located on land.
- *maritime mobile service:* A *mobile service* between *coast stations* and *ship stations*, or between *ship stations*, or between associated *on-board communication stations*; *survival craft stations* and *emergency position-indicating radiobeacon stations* may also participate in this service.
- *maritime mobile-satellite service:* A *mobile-satellite service* in which *mobile earth stations* are located on board ships; *survival craft stations* and *emergency position-indicating radiobeacon stations* may also participate in
- *port operations service:* A *maritime mobile service* in or near a port, between *coast stations* and *ship stations*, or between *ship stations*, in which messages are restricted to those relating to the operational handling, the movement and the safety of ships and, in emergency, to the safety of persons.
- Messages which are of a *public correspondence* nature shall be excluded from this service.
- *ship movement service:* A *safety service* in the *maritime mobile service* other than a *port operations service*, between *coast stations* and *ship stations*, or between *ship stations*, in which messages are restricted to those

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

relating to the movement of ships. Messages which are of a *public correspondence* nature shall be excluded from this service.

- *aeronautical mobile service:* A *mobile service* between *aeronautical stations* and *aircraft stations*, or between *aircraft stations*, in which *survival craft stations* may participate; *emergency position-indicating radiobeacon stations* may also participate in this service on designated distress and emergency frequencies.
- *aeronautical mobile (R)* service:* An *aeronautical mobile service* reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes.
- *aeronautical mobile (OR)** service:* An *aeronautical mobile service* intended for communications, including those relating to flight coordination, primarily outside national or international civil air routes.
- *aeronautical mobile-satellite service:* A *mobile-satellite service* in which *mobile earth stations* are located on board aircraft; *survival craft stations* and *emergency position-indicating radiobeacon stations* may also participate in this service.
- *aeronautical mobile-satellite (R)* service:* An *aeronautical mobile-satellite service* reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.
- *aeronautical mobile-satellite (OR)** service:* An *aeronautical mobile-satellite service* intended for communications, including those relating to flight coordination, primarily outside national and international civil air routes.
- *broadcasting service:* A *radiocommunication service* in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, *television* transmissions or other types of transmission (CS).
- *broadcasting-satellite service:* A *radiocommunication service* in which signals transmitted or retransmitted by *space stations* are intended for direct reception by the general public.
- In the broadcasting-satellite service, the term "direct reception" shall encompass both *individual reception* and *community reception*.
- *radiodetermination service:* A *radiocommunication service* for the purpose of *radiodetermination*.
- *radiodetermination-satellite service: A radiocommunication service for* the purpose of *radiodetermination* involving the use of one or more *space stations*.
- *radionavigation service:* A *radiodetermination service for* the purpose of *radionavigation*
- *radionavigation-satellite service:* A *radiodetermination-satellite service* used for the purpose of *radionavigation*. This service may also include *feeder links* necessary for its operation.
- *maritime radionavigation service:* A *radionavigation service* intended for the benefit and for the safe operation of ships.
- *maritime radionavigation-satellite service:* A *radionavigation-satellite service* in which *earth stations* are located on board ships.
- *aeronautical radionavigation service:* A *radionavigation service* intended for the benefit and for the safe operation of aircraft.
- *Aeronautical radionavigation-satellite service:* A *radionavigation-satellite service* in which *earth stations* are located on board aircraft.
- *Radiolocation service:* A *radiodetermination service for* the purpose of *radiolocation*

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

- *radiolocation-satellite service:* A *radiodetermination-satellite service* used for the purpose of *radiolocation*.
- This service may also include the *feeder links* necessary for its operation.
- *meteorological aids service:* A *radiocommunication service* used for meteorological, including hydrological, observations and exploration.
- *Earth exploration-satellite service:* A *radiocommunication service* between *earth stations* and one or more *space stations*, which may include links between *space stations*, in which:
    - information relating to the characteristics of the Earth and its natural phenomena, including data relating to the state of the environment, is obtained from *active sensors* or *passive sensors* on Earth *satellites*;
    - similar information is collected from airborne or Earth-based platforms;
    - such information may be distributed to *earth stations* within the system concerned;
    - platform interrogation may be included.

  This service may also include *feeder links* necessary for its operation.

- *meteorological-satellite service:* An *earth exploration-satellite service for* meteorological purposes.
- *standard frequency and time signal service:* A *radiocommunication service* for scientific, technical and other purposes, providing the transmission of specified frequencies, time signals, or both, of stated high precision, intended for general reception.
- scientific, technical and other purposes, providing the transmission of specified frequencies, time signals, or both, of stated high precision, intended for general reception.
- *standard frequency and time signal -satellite service:* A *radiocommunication service* using *space stations* on earth *satellites* for the same purposes as those of the *standard frequency and time signal service*. This service may also include *feeder links* necessary for its operation.
- *space research service:* A *radiocommunication service* in which *spacecraft* or other objects in space are used for scientific or technological research purposes.
- *amateur service:* A *radiocommunication service* for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.
- *amateur-satellite service:* A *radiocommunication service* using *space stations* on earth *satellites* for the same purposes as those of the *amateur service*.
- *radio astronomy service:* A service involving the use of *radio astronomy*.
- *safety service:* Any *radiocommunication service used* permanently or temporarily for the safeguarding of human life and property.
- *special service:* A *radiocommunication service*, not otherwise defined in this Section, carried on exclusively for specific needs of general utility, and not open to *public correspondence*.

Section IV – Radio stations and systems

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

- *station:* One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a *radiocommunication service*, or the *radio astronomy service*. Each station shall be classified by the service in which it operates permanently or temporarily
- *terrestrial station:* A *station* effecting *terrestrial radiocommunication*. In these Regulations, unless otherwise stated, any *station* is a terrestrial station.
- *earth station:* A *station* located either on the Earth's surface or within the major portion of the Earth's atmosphere and intended for communication:
    - with one or more *space stations*; or
    - with one or more *stations* of the same kind by means of one or more *reflecting satellites* or other objects in space.
- *space station:* A *station* located on an object which is beyond, is intended to go beyond, or has been beyond, the major portion of the Earth's atmosphere.
- *survival craft station:* A *mobile station* in the *maritime mobile service* or the *aeronautical mobile service* intended solely for survival purposes and located on any lifeboat, life-raft or other survival equipment.
- *fixed station:* A *station* in the *fixed service*.
- *high altitude platform station:* A *station* located on an object at an altitude of 20 to 50 km and at a specified, nominal, fixed point relative to the Earth.
- *mobile station:* A *station* in the *mobile service* intended to be used while in motion or during halts at unspecified points.
- *mobile earth station:* An *earth station* in the *mobile-satellite service* intended to be used while in motion or during halts at unspecified points.
- *land station:* A *station* in the *mobile service* not intended to be used while in motion.
- *land earth station:* An *earth station* in the *fixed-satellite service* or, in some cases, in the *mobile-satellite service,* located at a specified fixed point or within a specified area on land to provide a *feeder link* for the *mobile-satellite service*.
- *base station:* A *land station* in the *land mobile service*.
- *base earth station:* An *earth station* in the *fixed-satellite service* or, in some cases, in the *land mobile-satellite service,* located at a specified fixed point or within a specified area on land to provide a *feeder link* for the *land mobile-satellite service*.
- *land mobile station:* A *mobile station* in the *land mobile service* capable of surface movement within the geographical limits of a country or continent.
- *land mobile earth station:* A *mobile earth station* in the *land mobile-satellite service* capable of surface movement within the geographical limits of a country or continent.
- *coast station:* A *land station* in the *maritime mobile service*.
- *coast earth station:* An *earth station* in the *fixed-satellite service* or, in some cases, in the *maritime mobile-satellite service*, located at a specified fixed point on land to provide a *feeder link* for the *maritime mobile-satellite service*.
- *ship station:* A *mobile station* in the *maritime mobile service* located on board a vessel which is not permanently moored, other than a *survival craft station*.
- *ship earth station:* A *mobile earth station* in the *maritime mobile-satellite service* located on board ship.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

- *on-board communication station:* A low-powered *mobile station* in the *maritime mobile service* intended for use for internal communications on board a ship, or between a ship and its lifeboats and life-rafts during lifeboat drills or operations, or for communication within a group of vessels being towed or pushed, as well as for line handling and mooring instructions.
- *port station:* A *coast station* in the *port operations service*.
- *aeronautical station:* A *land station* in the *aeronautical mobile service*. In certain instances, an aeronautical station may be located, for example, on board ship or on a platform at sea.
- *aeronautical earth station:* An *earth station* in the *fixed-satellite service*, or, in some cases, in the *aeronautical mobile-satellite service*, located at a specified fixed point on land to provide a *feeder link* for the *aeronautical mobile-satellite service*.
- *aircraft station:* A *mobile station* in the *aeronautical mobile service*, other than a *survival craft station*, located on board an aircraft.
- *aircraft earth station:* A *mobile earth station* in the *aeronautical mobile-satellite service* located on board an aircraft.
- *broadcasting station:* A *station* in the *broadcasting service*.
- *radiodetermination station:* A *station* in the *radiodetermination service*.
- *radionavigation mobile station:* A *station in* the *radionavigation service* intended to be used while in motion or during halts at unspecified points.
- *radionavigation land station:* A *station* in the *radionavigation service* not intended to be used while in motion.
- *radiolocation mobile station:* A *station* in the *radiolocation service* intended to be used while in motion or during halts at unspecified points.
- *radiolocation land station:* A *station* in the *radiolocation service* not intended to be used while in motion.
- *radio direction-finding station:* A *radiodetermination station using radio direction-finding*.
- *radiobeacon station:* A *station* in the *radionavigation service* the *emissions* of which are intended to enable a *mobile station* to determine its bearing or direction in relation to the radiobeacon station.
- *emergency position-indicating radiobeacon station:* A *station* in the *mobile service* the *emissions* of which are intended to facilitate search and rescue operations.
- *satellite emergency position-indicating radiobeacon:* An *earth station* in the *mobile-satellite service* the *emissions* of which are intended to facilitate search and rescue operations.
- *standard frequency and time signal station:* A *station* in the *standard frequency and time signal service*.
- *amateur station:* A *station* in the *amateur service*.
- *radio astronomy station:* A *station* in the *radio astronomy service*.
- *experimental station:* A *station* utilizing *radio waves* in experiments with a view to the development of science or technique.

  This definition does not include *amateur stations.*
- *ship's emergency transmitter:* A ship's transmitter to be used exclusively on a distress frequency for distress, urgency or safety purposes.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

- *radar:* A *radiodetermination* system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.
- *primary radar:* A *radiodetermination* system based on the comparison of reference signals with radio signals reflected from the position to be determined.
- *secondary radar:* A *radiodetermination* system based on the comparison of reference signals with radio signals retransmitted from the position to be determined.
- *radar beacon (racon):* A transmitter-receiver associated with a fixed navigational mark which, when triggered by a *radar*, automatically returns a distinctive signal which can appear on the display of the triggering *radar*, providing range, bearing and identification information.
- *instrument landing system (ILS):* A *radionavigation* system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.
- *instrument landing system localizer:* A system of horizontal guidance embodied in the *instrument landing system* which indicates the horizontal deviation of the aircraft from its optimum path of descent along the axis of the runway.
- *instrument landing system glide path:* A system of vertical guidance embodied in the *instrument landing system* which indicates the vertical deviation of the aircraft from its optimum path of descent.
- *marker beacon:* A transmitter in the *aeronautical radionavigation service* which radiates vertically a distinctive pattern for providing position information to aircraft.
- *radio altimeter: Radionavigation* equipment, on board an aircraft or *spacecraft,* used to determine the height of the aircraft or the *spacecraft* above the Earth's surface or another surface.
- *meteorological aids land station:* A *station* in the *meteorological aids service* not intended to be used while in motion. (WRC-15)
- *meteorological aids mobile station:* A *station* in the *meteorological aids service* intended to be used while in motion or during halts at unspecified points. (WRC-15)
- *radiosonde:* An automatic radio transmitter in the *meteorological aids service* usually carried on an aircraft, free balloon, kite or parachute, and which transmits meteorological data.
- *adaptive system:* A *radiocommunication system* which varies its radio characteristics according to channel quality.
- *space system:* Any group of cooperating *earth stations* and/or *space stations* employing *space radiocommunication* for specific purposes.
- *satellite system:* A *space system* using one or more artificial earth *satellites*.
- *satellite network:* A *satellite system* or a part of a *satellite system*, consisting of only one *satellite* and the cooperating *earth stations*.
- *satellite link:* A radio link between a transmitting *earth station* and a receiving *earth station* through one *satellite*.
- A satellite link comprises one up-link and one down-link. *multi-satellite link:* A radio link between a transmitting *earth station* and a receiving *earth station* through two or more *satellites*, without any intermediate *earth station*.
- A multi-satellite link comprises one up-link, one or more satellite-to-satellite links and one down-link.
- *feeder link:* A radio link from an *earth station* at a given location to a *space station*, or vice versa, conveying information for a *space radiocommunication service* other than for the *fixed-satellite service*. The given location may be at a specified fixed point, or at any fixed point within specified areas.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Section V – Operational terms

- *public correspondence:* Any *telecommunication* which the offices and *stations* must, by reason of their being at the disposal of the public, accept for transmission (CS).
- *telegraphy*: A form of *telecommunication* in which the transmitted information is intended to be recorded on arrival as a graphic document; the transmitted information may sometimes be presented in an alternative form or may be stored for subsequent use (CS 1016).
- *telegram:* Written matter intended to be transmitted by *telegraphy* for delivery to the addressee. This term also includes *radiotelegrams* unless otherwise specified (CS). In this definition the term *telegraphy* has the same general meaning as defined in the Convention.
- *radiotelegram:* A *telegram*, originating in or intended for a *mobile station* or a *mobile earth station* transmitted on all or part of its route over the *radiocommunication* channels of the *mobile service* or of the *mobile-satellite service*.
- *radiotelex call:* A telex call, originating in or intended for a *mobile station* or a *mobile earth station*, transmitted on all or part of its route over the *radiocommunication* channels of the *mobile service* or the *mobile-satellite service*.
- *frequency-shift telegraphy: Telegraphy* by frequency modulation in which the telegraph signal shifts the frequency of the carrier between predetermined values.
- *facsimile:* A form of *telegraphy* for the transmission of fixed images, with or without half-tones, with a view to their reproduction in a permanent form.
- *telephony:* A form of *telecommunication* primarily intended for the exchange of information in the form of speech (CS 1017).
- *radiotelephone call:* A telephone call, originating in or intended for a *mobile station* or a *mobile earth station*, transmitted on all or part of its route over the *radiocommunication* channels of the *mobile service* or of the *mobile-satellite service*.
- *simplex operation:* Operating method in which transmission is made possible alternately in each direction of a *telecommunication* channel, for example, by means of manual control.
- *duplex operation:* Operating method in which transmission is possible simultaneously in both directions of a *telecommunication* channel.
- *semi-duplex operation:* A method which is *simplex operation* at one end of the circuit and *duplex operation* at the other.
- *television:* A form of *telecommunication* for the transmission of transient images of fixed or moving objects.
- *individual reception* (in the broadcasting-satellite service): The reception of *emissions* from a *space station* in the *broadcasting-satellite service* by simple domestic installations and in particular those possessing small antennas.
- *community reception* (in the broadcasting-satellite service): The reception of *emissions* from a *space station* in the *broadcasting-satellite service* by receiving equipment, which in some cases may be complex and have antennas larger than those used for *individual reception*, and intended for use:
    - by a group of the general public at one location; or through a distribution system covering a limited area.
- *telemetry:* The use of *telecommunication* for automatically indicating or recording measurements at a distance from the measuring instrument.
- *radiotelemetry: Telemetry* by means of *radio waves*.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

- *space telemetry:* The use of *telemetry* for the transmission from a *space station* of results of measurements made in a *spacecraft*, including those relating to the functioning of the *spacecraft*.
- *telecommand:* The use of *telecommunication* for the transmission of signals to initiate, modify or terminate functions of equipment at a distance.
- *space telecommand:* The use of *radiocommunication* for the transmission of signals to a *space station* to initiate, modify or terminate functions of equipment on an associated space object, including the *space station*.
- *space tracking:* Determination of the *orbit*, velocity or instantaneous position of an object in space by means of *radiodetermination*, excluding *primary radar*, for the purpose of following the movement of the object.

Section VI – Characteristics of emissions and radio equipment

- *radiation:* The outward flow of energy from any source in the form of *radio waves*.
- *emission: Radiation* produced, or the production of *radiation*, by a radio transmitting *station*.

For example, the energy radiated by the local oscillator of a radio receiver would not be an emission but a *radiation*.

- *class of emission:* The set of characteristics of an *emission*, designated by standard symbols, e.g. type of modulation of the main carrier, modulating signal, type of information to be transmitted, and also, if appropriate, any additional signal characteristics.
- *single-sideband emission:* An amplitude modulated *emission* with one sideband
- *full carrier single-sideband emission:* A *single-sideband emission* without reduction of the carrier.
- *reduced carrier single-sideband emission:* A *single-sideband emission* in which the degree of carrier suppression enables the carrier to be reconstituted and to be used for demodulation.
- *suppressed carrier single-sideband emission:* A *single-sideband emission* in which the carrier is virtually suppressed and not intended to be used for demodulation
- *out-of-band emission**: Emission* on a frequency or frequencies immediately outside the *necessary bandwidth* which results from the modulation process, but excluding *spurious emissions*.
- *spurious emission**: Emission* on a frequency or frequencies which are outside the *necessary bandwidth* and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic *emissions*, parasitic *emissions*, intermodulation products and frequency conversion products, but exclude *out-of-band emissions*.
- *unwanted emissions**:* Consist of *spurious emissions* and *out-of-band emissions*.
- *out-of-band domain* (of an emission): The frequency range, immediately outside the *necessary bandwidth* but excluding the *spurious domain*, in which *out-of-band emissions* generally predominate. *Out-of-band emissions*, defined based on their source, occur in the out-of-band domain and, to a lesser extent, in the *spurious domain*. *Spurious emissions* likewise may occur in the out-of-band domain as well as in the *spurious domain*. (WRC-03)
- *spurious domain* (of an emission): The frequency range beyond the *out-of-band domain* in which *spurious emissions* generally predominate. (WRC-03)
- *assigned frequency band:* The frequency band within which the *emission* of a *station* is authorized; the width of the band equals the *necessary bandwidth* plus twice the absolute value of the *frequency tolerance*. Where *space*

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

stations are concerned, the assigned frequency band includes twice the maximum Doppler shift that may occur in relation to any point of the Earth's surface.

- *assigned frequency:* The centre of the frequency band assigned to a *station*.
- *characteristic frequency:* A frequency which can be easily identified and measured in a given *emission*.

A carrier frequency may, for example, be designated as the characteristic frequency.

- *reference frequency:* A frequency having a fixed and specified position with respect to the *assigned frequency*. The displacement of this frequency with respect to the *assigned frequency* has the same absolute value and sign that the displacement of the *characteristic frequency* has with respect to the Centre of the frequency band occupied by the *emission*.
- *frequency tolerance:* The maximum permissible departure by the Centre frequency of the frequency band occupied by an *emission* from the *assigned frequency* or, by the *characteristic frequency* of an *emission* from the *reference frequency*.

The frequency tolerance is expressed in parts in 10^6 or in hertz.

- *necessary bandwidth:* For a given *class of emission*, the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions.
- *occupied bandwidth:* The width of a frequency band such that, below the lower and above the upper frequency limits, the *mean powers* emitted are each equal to a specified percentage E/2 of the total *mean power* of a given *emission*.

Unless otherwise specified in an ITU-R Recommendation for the appropriate *class of emission*, the value of E/2 should be taken as 0.5%.

- *right-hand* (clockwise) *polarized wave:* An elliptically- or circularly-polarized wave, in which the electric field vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in the direction of propagation, rotates with time in a right-hand or clockwise direction.
- *left-hand* (anticlockwise) *polarized wave:* An elliptically- or circularly-polarized wave, in which the electric field vector, observed in any fixed plane, normal to the direction of propagation, whilst looking in the direction of propagation, rotates with time in a left-hand or anticlockwise direction.
- *power:* Whenever the power of a radio transmitter, etc. is referred to it shall be expressed in one of the following forms, according to the class of *emission*, using the arbitrary symbols indicated:

- *peak envelope power* (*P*X or *p*X);
- *mean power* (*P*Y or *p*Y);
- *carrier power* (*P*Z or *p*Z).

For different *classes of emission*, the relationships between *peak envelope power*, *mean power* and *carrier power*, under the conditions of normal operation and of no modulation, are contained in ITU-R Recommendations which may be used as a guide.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

For use in formulae, the symbol *p* denotes power expressed in watts and the symbol *P* denotes power expressed in decibels relative to a reference level.

- *peak envelope power* (of a radio transmitter): The average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle at the crest of the modulation envelope taken under normal operating conditions.
- *mean power* (of a radio transmitter): The average power supplied to the antenna transmission line by a transmitter during an interval of time sufficiently long compared with the lowest frequency encountered in the modulation taken under normal operating conditions.
- *carrier power* (of a radio transmitter): The average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle taken under the condition of no modulation.
- *gain of an antenna:* The ratio, usually expressed in decibels, of the power required at the input of a loss-free reference antenna to the power supplied to the input of the given antenna to produce, in a given direction, the same field strength or the same power flux-density at the same distance. When not specified otherwise, the gain refers to the direction of maximum *radiation*. The gain may be considered for a specified polarization.

  Depending on the choice of the reference antenna a distinction is made between:

  a) absolute or isotropic gain (G_i), when the reference antenna is an isotropic antenna isolated in space;

  b) gain relative to a half-wave dipole (G_d), when the reference antenna is a half-wave dipole isolated in space whose equatorial plane contains the given direction;

  c) gain relative to a short vertical antenna (G_v), when the reference antenna is a linear conductor, much shorter than one quarter of the wavelength, normal to the surface of a perfectly conducting plane which contains the given direction.
- *equivalent isotropically radiated power (e.i.r.p.):* The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna *(absolute or isotropic gain)*.
- *effective radiated power (e.r.p.)* (in a given direction)*:* The product of the power supplied to the antenna and its *gain relative to a half-wave dipole* in a given direction.
- *effective monopole radiated power (e.m.r.p.)* (in a given direction)*:* The product of the power supplied to the antenna and its *gain relative to a short vertical antenna* in a given direction.
- *tropospheric scatter:* The propagation of *radio waves* by scattering as a result of irregularities or discontinuities in the physical properties of the troposphere.
- *ionospheric scatter:* The propagation of *radio waves* by scattering as a result of irregularities or discontinuities in the ionization of the ionosphere.

Section VII – Frequency sharing

- *interference:* The effect of unwanted energy due to one or a combination of *emissions*, *radiations*, or inductions upon reception in a *radiocommunication* system, manifested by any performance degradation, misinterpretation, or loss of information which could be extracted in the absence of such unwanted energy.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

- *permissible interference:* Observed or predicted *interference* which complies with quantitative *interference* and sharing criteria contained in these Regulations or in ITU-R Recommendations or in special agreements as provided for in these Regulations.
- *accepted interference: Interference* at a higher level than that defined as *permissible interference* and which has been agreed upon between two or more *administrations* without prejudice to other *administrations*.
- *harmful interference: Interference* which endangers the functioning of a *radionavigation service* or of other *safety services* or seriously degrades, obstructs, or repeatedly interrupts a *radiocommunication service* operating in accordance with Radio Regulations (CS).
- *protection ratio* (R.F.): The minimum value of the wanted-to-unwanted signal ratio, usually expressed in decibels, at the receiver input, determined under specified conditions such that a specified reception quality of the wanted signal is achieved at the receiver output.
- *coordination area:* When determining the need for coordination, the area surrounding an *earth station* sharing the same frequency band with *terrestrial stations*, or surrounding a transmitting *earth station* sharing the same bidirectionally allocated frequency band with receiving *earth stations*, beyond which the level of *permissible interference* will not be exceeded and coordination is therefore not required. (WRC-2000)
- *coordination contour:* The line enclosing the *coordination area*.
- *coordination distance:* When determining the need for coordination, the distance on a given azimuth from an *earth station* sharing the same frequency band with *terrestrial stations*, or from a transmitting *earth station* sharing the same bidirectionally allocated frequency band with receiving *earth stations*, beyond which the level of *permissible interference* will not be exceeded and coordination is therefore not required. (WRC-2000)
- *equivalent satellite link noise temperature:* The noise temperature referred to the output of the receiving antenna of the *earth station* corresponding to the radio frequency noise power which produces the total observed noise at the output of the *satellite link* excluding noise due to *interference* coming from *satellite links* using other *satellites* and from terrestrial systems.
- *effective boresight area* (of a steerable satellite beam): An area on the surface of the Earth within which the boresight of a *steerable satellite beam* is intended to be pointed. There may be more than one unconnected effective boresight area to which a single *steerable satellite beam* is intended to be pointed.
- *effective antenna gain contour* (of a steerable satellite beam): An envelope of antenna gain contours resulting from moving the boresight of a *steerable satellite beam* along the limits of the *effective boresight area*.

Section VIII – Technical terms relating to space

- *deep space:* Space at distances from the Earth equal to, or greater than, 2×10^6 km.
- *spacecraft:* A man-made vehicle which is intended to go beyond the major portion of the Earth's atmosphere.
- *satellite:* A body which revolves around another body of preponderant mass and which has a motion primarily and permanently determined by the force of attraction of that other body.
- *active satellite:* A *satellite* carrying a *station* intended to transmit or retransmit *radiocommunication* signals.
- *reflecting satellite:* A *satellite* intended to reflect *radiocommunication* signals.
- *active sensor:* A measuring instrument in the *earth exploration-satellite service* or in the *space research service* by means of which information is obtained by transmission and reception of *radio waves*.
- *passive sensor:* A measuring instrument in the *earth exploration-satellite service* or in the *space research service* by means of which information is obtained by reception of *radio waves* of natural origin.
- *orbit:* The path, relative to a specified frame of reference, described by the centre of mass of a *satellite* or other object in space subjected primarily to natural forces, mainly the force of gravity.
- *inclination of an orbit* (of an earth satellite): The angle determined by the plane containing the *orbit* and the plane of the Earth's equator measured in degrees between 0º and 180º and in counter-clockwise direction from the Earth's equatorial plane at the ascending node of the *orbit*. (WRC-2000)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

- *period* (of a satellite): The time elapsing between two consecutive passages of a *satellite* through a characteristic point on its *orbit*.
- *altitude of the apogee* or *of the perigee:* The altitude of the apogee or perigee above a specified reference surface serving to represent the surface of the Earth.
- *geosynchronous satellite:* An earth *satellite* whose period of revolution is equal to the period of rotation of the Earth about its axis.
- *geostationary satellite:* A *geosynchronous satellite* whose circular and direct *orbit* lies in the plane of the Earth's equator and which thus remains fixed relative to the Earth; by extension, a *geosynchronous satellite* which remains approximately fixed relative to the Earth. (WRC-03)
- *geostationary- satellite orbit:* The *orbit* of a *geosynchronous satellite* whose circular and direct *orbit* lies in the plane of the Earth's equator.
- *steerable satellite beam:* A *satellite* antenna beam that can be re-pointed.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-D: Frequency Allocation Chart for Vanuatu (8.3 kHz to 3000 GHz)

The Vanuatu Frequency chart is a zoom able file format, zoom in to the frequency of interest for further information

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Radio Frequency Allocation Chart for The Republic of Vanuatu

The chart illustrates how the radio-frequency spectrum is allocated among radio-communications services in Vanuatu. It is derived from the outcomes of the International Telecommunication Union (ITU) Radio Regulations released after the World Radiocommunication Conference held in Geneva in 2015. Each of these bands is divided into sub-bands which are allocated to particular services shown in the chart by different colors.

Important Note:
The chart is designed for quick reference. All details of National Frequency Allocations are not possible to be shown on Chart, therefore for complete details of frequency allocations, reference should be made to latest Band Plans, National Table of Frequency Allocations of Vanuatu and related footnotes.

TRR
Telecommunications & Radiocommunications Regulator

Revised in October 2018

LEGEND

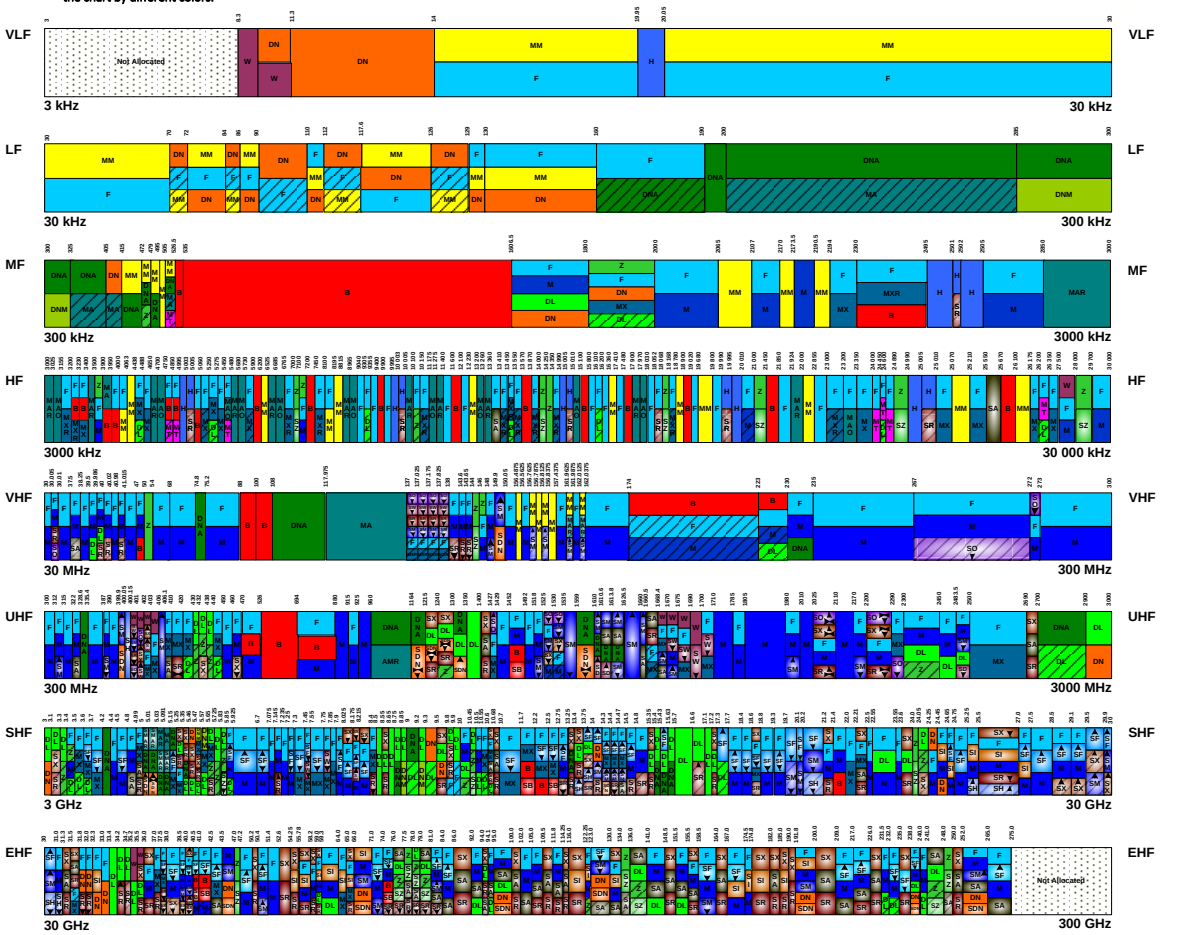
Color	Radiocommunications Services
Z	Amateur
F	Fixed
M	Mobile
MX	Mobile except aeronautical mobile
MXR	Mobile except aeronautical mobile (R)
MA	Aeronautical Mobile
MAR	Aeronautical Mobile (R)
MAO	Aeronautical Mobile (OR)
MM	Maritime Mobile
MT	Land Mobile
DN	Radionavigation
DNA	Aeronautical Radionavigation
DNM	Maritime Radionavigation
DL	Radiolocation
W	Meteorological Aids
B	Broadcasting
N	Standard Frequency and Time Signal
SZ	Amateur Satellite
SF	Fixed Satellite
SM	Mobile - Satellite
SMAR	Aeronautical Mobile-Satellite (R)
SDN	Radionavigation Satellite
SD	Radiodetermination-Satellite
SW	Meteorological Satellite
SB	Broadcasting Satellite
SH	Standard Frequency and Time Signal Satellite
SX	Earth Exploration-Satellite
SR	Space Research
SO	Space Operation
SA	Radio Astronomy
SI	Inter-Satellite

Secondary Service
Not Allocated
Earth to Space
Space to Earth
Space to Space

Band Number	Symbols	Frequency range (lower limit exclusive, upper limit inclusive)	Corresponding metric subdivision
4	VLF	3 to 30 kHz	Myriametric waves
5	LF	30 to 300 kHz	Kilometric waves
6	MF	300 to 3 000 kHz	Hectometric waves
7	HF	3 to 30 MHz	Decametric waves
8	VHF	30 to 300 MHz	Metric waves
9	UHF	300 to 3 000 MHz	Decimetric waves
10	SHF	3 to 30 GHz	Centimetric waves
11	EHF	30 to 300 GHz	Millimetric waves
12		300 to 3 000 GHz	Decamillimetric waves

Telecommunications and Radiocommunications Regulator for the Republic of Vanuatu

Address: P O Box 3547, Port Vila, Vanuatu
Tel: +678 27621
Fax: +678 27440
Email: enquiries@trr.vu



+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-E: Channelling Strategies for Major Wireless Technologies

CHANNELING STRATEGIES

S.No.	*Band*	*Service*	*Proposed Channeling/band plan Strategy*
1.	***118 - 136 MHz***	*VHF Aeronautical services*	
2.	***156.025 - 157.425*** *and* ***160.625 - 162.025 MHz***	*VHF Maritime channels*	*International Maritime channels*
3.	***340 - 360 MHz***	*Terrestrial PMR services for Security agencies*	*channeling of 12.5 KHz bandwidth and 10MHz duplex spacing*
4.	***360 - 380 MHz***	*Commercial Tetra Services*	*See Figure 4as an example for two licensees*
5.	***380 - 400 MHz***	*Tetra Mobile radio services for Security agencies*	*As per demand of security agencies*
6.	***400 - 410 MHz***	*Metrological services*	*channeling of 12.5 KHz bandwidth and 5MHz duplex spacing is proposed*
7.	***410 - 450 MHz***	*Commercial PMR services and telemetry services (Both Simplex and Duplex)*	*A channeling of 12.5 KHz bandwidth and at least 10MHz duplex spacing is proposed (Band center at 430 MHz).*
8.	***450 - 470 MHz***	*cellular mobile services especially in relation of VUT-22 (IMT deployment)*	*See Figure 5 (proposed reassignment for two assignments based on FDD systems)*

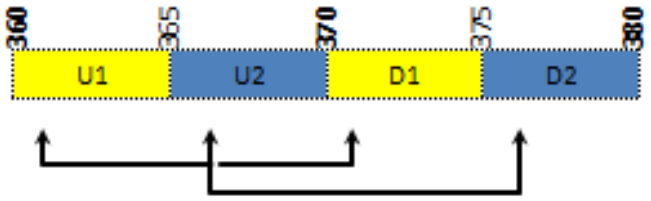


Figure 2: 360-380 MHz band plan

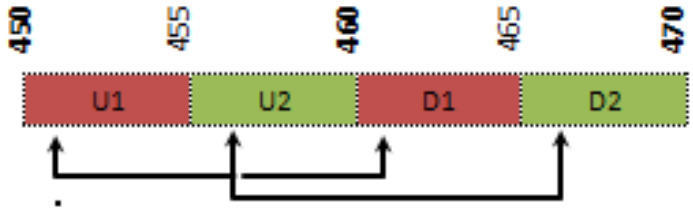


Figure 3: 450 – 470 MHz band plan (Proposed)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

BAND PLANS FOR CELLULAR MOBILE SERVICES

Table 1: 470- 694 MHz Band (IMT)

450 – 470 MHz
TDD

In-line with the Decision 1 of 2014 of TRR regarding the planning of 700 MHz band, following band planning is suggested for the 700 MHz Band. The operating RF characteristics including out of band emissions for 700MHz band plan remain the same as per the referred decision

Table 2: Band 28/ 700 – 800 MHz (3GPP)

703 – 748 MHz	749 – 757 MHz	758 – 803 MHz
45 MHz		45 MHz
Up Link	Band gap	Down Link

Table 3: Band 5/ 800 – 900 MHz (3GPP)

824 – 849 MHz	850 – 868 MHz	869 – 894 MHz
45 MHz		45 MHz
Up Link	Band gap	Down Link

Table 6: Band 8/ 800 – 900 MHz (3GPP) Alternative

880 – 915 MHz	916 – 924 MHz	925 – 960MHz
45 MHz		45 MHz
Up Link	Band gap	Down Link

Table 4: Band 3/ 1710 – 1880 MHz (3GPP)

1710 – 1785 MHz	1786 – 1804 MHz	1805 – 1880 MHz
75 MHz		75 MHz
Up Link	Band gap	Down Link

Notes:

1. Licensee at trailing edge and trailing end in this band must have 200 KHz Guard Band.
2. The licensee of this allocation must have 200 KHz Guard Band between another licensee in this band.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Table 5: Band 1/ 1900 – 2200 MHz (3GPP)

1920 – 1980 MHz	1981 -2109 MHz	2110 – 2170 MHz
60 MHz		60 MHz
Up Link	Band gap	Down Link

Table 9: Band 2/ 1900 – 2200 MHz (3GPP) Alternative

1850 – 1910 MHz	1911 -1929 MHz	1930 – 1990 MHz
60 MHz		60 MHz
Up Link	Band gap	Down Link

Table 10: Band 40/ 2300- 2400 MHz (3GPP)

2300 – 2400 MHz
TDD
100 MHz

Table 11: Band 7/ 2500 – 2700 MHz (3GPP)

2500 – 2570 MHz	2571 -2619 MHz	2620 – 2690 MHz
70 MHz		70 MHz
Up Link	Band gap	Down Link

Table 12: Band 38/2500 – 2700 MHz (3GPP) Alternative

2570 – 2620 MHz
TDD
50 MHz

Table 13: Band 52/3300 – 3400 MHz (3GPP)

3300 – 3400 MHz
TDD
100 MHz

Table 14: Band 42/3400 – 3600 MHz (3GPP)

3400 – 3600 MHz
TDD
200 MHz

Table 15: Band 43/3600 – 3800 MHz (3GPP)

3600 – 3800 MHz
TDD
200 MHz

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

MICROWAVE LINK and TRANSMISSION SPECTRUM

Frequency band	ITU Recommendations (but not limited)
5 GHz	ITU R 746 - 2
6 GHz lower	ITU R 383
6 GHz upper	ITU R 384
7 GHz	ITU R 385 - 8
8 GHz	ITU R 386 - 4
10 GHz	ITU R 1568 - 1
11 GHz	ITU R 387
13 GHz	ITU R 497 - 5
14 GHz	ITU R 746 - 6
15 GHz	ITU R 636 - 4
18 GHz	ITU R 595
23 GHz	ITU R 367
80 GHz	ITU R 2006

SATELLITE SPECTRUM

Band Allocation	Frequency Range
C band	3700 – 4200 MHz/ 5600 – 6400 MHz
Ku band	12 – 18 GHz
Ka Band	18 – 26 GHz
K band	18 – 29 GHz

TERRESTRIAL TV SPECTRUM

Band Allocation	Frequency Range
VHF Spectrum	174 – 230 MHz

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-F: Frequencies for Distress and Safety Communications

The frequencies to be used exclusively for Global Maritime Distress and Safety System (GMDSS) communications are given below including those uses for Aeronautical services:

A. Frequencies below 30 MHz

Frequency (kHz)	Description of usage	Notes
490	MSI	The frequency 490 kHz is used exclusively for maritime safety information (MSI). (WRC - 03)
518	MSI	The frequency 518 kHz is used exclusively by the international NAVTEX system.
***2 174.5**	NBDP - COM	
***2 182**	RTP - COM	The frequency 2 182 kHz uses class of emission J3E. See also No. **52.190**.
***2 187.5**	DSC	
3 023	AERO - SAR	The aeronautical carrier (reference) frequencies 3 023 kHz and 5 680 kHz may be used for intercommunication between mobile stations engaged in coordinated search and rescue operations, and for communication between these stations and participating land stations, in accordance with the provisions of Appendix **27 of RR.** (see Nos. **5.111** and **5.115**).
***4 125**	RTP - COM	See also No. 52.221. The carrier frequency 4 125 kHz may be used by aircraft stations to communicate with stations of the maritime mobile service for distress and safety purposes, including search and rescue (see No. 30.11).
***4 177.5**	NBDP - COM	
***4 207.5**	DSC	
4 209.5	MSI	The frequency 4 209.5 kHz is exclusively used for NAVTEX - type transmissions. (see Resolution **339 (Rev.WRC-07)**).
4 210	MSI - HF	
5 680	AERO - SAR	See note under 3 023 kHz above.
***6 215**	RTP - COM	
***6 268**	NBDP - COM	
***6 312**	DSC	
6 314	MSI - HF	
***8 291**	RTP - COM	
***8 376.5**	NBDP - COM	
***8 414.5**	DSC	

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

8 416.5	MSI - HF
***12 290**	RTP - COM
***12 520**	NBDP - COM
***12 577**	DSC
12 579	MSI - HF
***16 420**	RTP - COM
***16 695**	NBDP - COM
***16 804.5**	DSC
16 806.5	MSI - HF
19 680.5	MSI - HF
22 376	MSI - HF
26 100.5	MSI - HF

* *Except as provided in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (*) is prohibited. Any emission causing harmful interference to distress and safety communications on any of the discrete frequencies identified in this Appendix is prohibited. (WRC - 07)*

Additional Notes:

- **AERO - SAR** These aeronautical carrier (reference) frequencies may be used for distress and safety purposes by mobile stations engaged in coordinated search and rescue operations.

- **DSC** These frequencies are used exclusively for distress and safety calls using digital selective calling in accordance with No. **32.5** (see Nos. **33.8** and **33.32**). (WRC-07)

- **MSI** In the maritime mobile service, these frequencies are used exclusively for the transmission of maritime safety information (MSI) (including meteorological and navigational warnings and urgent information) by coast stations to ships, by means of narrow - band direct - printing telegraphy.
- **MSI - HF** In the maritime mobile service, these frequencies are used exclusively for the transmission of high seas MSI by coast stations to ships, by means of narrow - band direct - printing telegraphy.
- **NBDP - COM** These frequencies are used exclusively for distress and safety communications (traffic) using narrow - band direct - printing telegraphy.
- **RTP - COM** These carrier frequencies are used for distress and safety communications (traffic) by radiotelephony.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

B. Frequencies above 30 MHz (VHF/UHF)

Frequency (MHz)	Description of usage	Notes
***121.5**	AERO - SAR	The aeronautical emergency frequency 121.5 MHz is used for the purposes of distress and urgency for radiotelephony by stations of the aeronautical mobile service using frequencies in the band between 117.975 MHz and 137 MHz. This frequency may also be used for these purposes by survival craft stations. Use of the frequency 121.5 MHz by emergency position-indicating radio beacons shall be in accordance with Recommendation ITU-R M.690-3. Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies **(see also Nos. 5.111 and 5.200)**. They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated
123.1	AERO - SAR	The aeronautical auxiliary frequency 123.1 MHz, which is auxiliary to the aeronautical emergency frequency 121.5 MHz, is for use by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations **(see also No. 5.200)**. Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies **(see also Nos. 5.111 and 5.200)**. They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated.
156.3	VHF - CH06	The frequency 156.3 MHz may be used for communication between ship stations and aircraft stations engaged in coordinated search and rescue operations. It may also be used by aircraft stations to communicate with ship stations for other safety purposes (see also Note f) in Appendix **18**).
***156.525**	VHF - CH70	The frequency 156.525 MHz is used in the maritime mobile service for distress and safety calls using digital selective calling **(see also Nos. 4.9, 5.227, 30.2 and 30.3)**.
156.650	VHF - CH13	The frequency 156.650 MHz is used for ship-to-ship communications relating to the safety of navigation in accordance with Note k) in Appendix **18**.
***156.8**	VHF - CH16	The frequency 156.8 MHz is used for distress and safety communications by radiotelephony. Additionally, the frequency 156.8 MHz may be used by aircraft stations for safety purposes only.
***161.975**	AIS - SART VHF CH AIS 1	AIS 1 is used for AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations.

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

***162.025**	AIS - SART VHF CH AIS 2	AIS 2 is used for AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations.
***406 - 406.1**	406 - EPIRB	This frequency band is used exclusively by satellite emergency position indicating radio beacons in the Earth-to-space direction **(see No. 5.266)**.
1 530 - 1 544	SAT - COM	In addition to its availability for routine non-safety purposes, the band 1 530- 1 544 MHz is used for distress and safety purposes in the space-to-Earth direction in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band **(see No. 5.353A)**.
***1 544 - 1 545**	D&S - OPS	Use of the band 1 544-1 545 MHz (space-to-Earth) is limited to distress and safety operations **(see No. 5.356)**, including feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radio beacons to earth stations and narrow-band (space-to-Earth) links from space stations to mobile stations.
1 626.5 - 1 645.5	SAT - COM	In addition to its availability for routine non-safety purposes, the band 1 626.5- 1 645.5 MHz is used for distress and safety purposes in the Earth-to-space direction in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band **(see No. 5.353A).**
***1 645.5 - 1 646.5**	D&S - OPS	Use of the band 1 645.5-1 646.5 MHz (Earth-to-space) is limited to distress and safety operations **(see No. 5.375)**.
9 200 - 9 500	SARTS	This frequency band is used by radar transponders to facilitate search and rescue.

** Except as provided in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (*) is prohibited. Any emission causing harmful interference to distress and safety communications on any of the discrete frequencies identified in this Appendix is prohibited. (WRC - 07)*

Additional Notes:

- **AERO-SAR** These aeronautical carrier (reference) frequencies may be used for distress and safety purposes by mobile stations engaged in coordinated search and rescue operations.
- **D&S-OPS** The use of these bands is limited to distress and safety operations of satellite emergency position indicating radio beacons (EPIRBs).
- **SAT-COM** These frequency bands are available for distress and safety purposes in the maritime mobile satellite service.
- **VHF-CH#** These VHF frequencies are used for distress and safety purposes. The channel number (CH#) refers to the VHF channel as listed in Appendix 18, which should also be consulted.
- **AIS** These frequencies are used by automatic identification systems (AIS), which should operate in accordance with the most recent version of Recommendation ITU-R M.1371. (WRC-07)

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-G: Frequencies for VHF band for Aeronautical Communication (118 - 137 MHz)

Frequencies	Service Allocation	Frequencies	Service Allocation	Frequencies	Service Allocation
118.000 - 118.875 MHz	TWR	121.5 MHz	Emergency frequency	125.000 - 125.075 MHz	APP-U
118.900 - 118.975 MHz	ACC-U / ACC-LU	121.525 MHz		125.100 - 125.175 MHz	APP-U/APP SR-I/FIS-I
119.000 – 119.275 MHz	APP-I/APP DF-I	121.55 MHz		125.200 - 125.275 MHz	APP-U
119.300 - 119.375 MHz	ACC-U / ACC-LU	121.575 MHz		125.300 - 125.375 MHz	ACC-U / ACC-LU/APP-U
119.400 - 119.475 MHz	APP-I/APP DF-I	121.600 - 121.975 MHz	SMC	125.400 - 125.475 MHz	APP-U
119.500 - 119.675 MHz	APP-PAR	122.000 - 123.050 MHz	National Assignments	125.500 - 125.575 MHz	APP-U/APP SR-I/FIS-I
119.700 - 119.775 MHz	APP-I/APP DF-I	123.45 MHz	Air to Air	125.600 - 125.675 MHz	APP-U
119.800 - 119.975 MHz	APP-PAR	123.475 - 123.675 MHz	National Assignments	125.700 - 125.775 MHz	ACC-U / ACC-LU/APP-U
120.000 - 120.075 MHz	APP-I/APP DF-I	123.700 - 123.775 MHz	ACC-U / ACC-LU	125.800 - 125.875 MHz	APP-U
120.100 - 120.175 MHz	FIS-U (GP)	123.800 – 123.875MHz	APP SR-I/FIS-I	125.900 - 125.975 MHz	ACC-U / ACC-LU/APP-U
120.200 - 120.275 MHz	APP-I/APP DF-I	123.900 - 123.975 MHz	FIS-U (GP)	126.000 - 126.075 MHz	Volmet/ATIS/APP-U
120.300 - 120.375 MHz	APP-U	124.000 - 124.075 MHz	APP SR-I/FIS-I	126.100 - 126.175 MHz	ACC-I/APP-U
120.400 - 120.475 MHz	APP-I/APP DF-I	124.100 - 124.175 MHz	FIS-U (GP)	126.200 - 126.275 MHz	Volmet/ATIS/APP-U
120.500 - 120.575 MHz	ACC-U / ACC-LU	124.2 MHz		126.300 - 126.375 MHz	APP-U

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

120.600 - 120.675 MHz	APP-I/APP DF-I	124.225 MHz		126.400 - 126.475 MHz	Volmet/ATIS
120.700 - 120.775 MHz	ACC-U / ACC-LU	124.25 MHz		126.500 - 126.575 MHz	APP SR-I/FIS-I
120.800 - 120.875 MHz	APP-I/APP DF-I	124.275 MHz		126.600 - 126.675 MHz	Volmet/ATIS
120.900 - 120.975 MHz	ACC-U / ACC-LU	124.300 - 124.375 MHz	TWR	126.700 - 126.775 MHz	FIS-U (GP)
121.000 - 121.275 MHz	APP-I/APP DF-I	124.400 - 124.475 MHz	APP-U	126.800 - 126.875 MHz	Volmet/ATIS
121.300 - 121.375 MHz	APP-U	124.500 - 124.575 MHz	ACC-U / ACC-LU	126.900 - 126.975 MHz	FIS-U (GP)
121.4 MHz	APP-I/APP DF-I	124.600 - 124.675 MHz	APP-U	127.000 - 127.075 MHz	Volmet/ATIS
121.425 MHz		124.700 - 124.775 MHz	APP SR-I/FIS-I	127.100 - 127.175 MHz	FIS-U (GP)
121.45 MHz		124.800 - 124.875 MHz	APP-U	127.200 - 127.275 MHz	Volmet/ATIS
121.475 MHz		124.900 - 124.975 MHz	FIS-U (GP)/APP-U	127.300 - 127.375 MHz	FIS-U (GP)

Frequencies	Service Allocation	Frequencies	Service Allocation
127.400 - 127.475 MHz	Volmet/ATIS	134.600 - 135.800 MHz	FIS-U (GP)
127.500 - 127.575 MHz	ACC-I	135.825 MHz	
127.600 - 127.675 MHz	Volmet/ATIS	135.85 MHz	
127.700 - 127.775 MHz	APP SR-I/FIS-I	135.875 MHz	
127.800 - 127.875 MHz	Volmet/ATIS/APP SR-I/FIS-I	135.9 MHz	
127.900 - 127.975 MHz	APP SR-I/FIS-I	135.925 MHz	

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

128.000 - 128.075 MHz	Volmet/ATIS	135.95 MHz	
128.100 - 128.175 MHz	ACC-U / ACC-LU	135.975 MHz	
128.200 - 128.275 MHz	Volmet/ATIS	136.000 - 136.900 MHz	Spare
128.300 - 128.375 MHz	ACC-I	136.925 - 137.000 MHz	Data Link
128.400 - 128.475 MHz	Volmet/ATIS		
128.500 - 128.575 MHz	FIS-U (GP)		
128.600 - 128.675 MHz	Volmet/ATIS		
128.700 - 128.775 MHz	Volmet/ATIS/ACC-I		
128.8	Volmet/ATIS		
128.825 - 128.925 MHz	Operational Control		
128.95 MHz	Air to Air		
128.975 - 132.025 MHz	Operational Control		
132.05 MHz			
132.075 MHz			
132.100 - 134.500 MHz	ACC-U / ACC-LU		
134.525 MHz			
134.55 MHz			
134.575 MHz			

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Definitions

Abbreviation of Service	TYPE OF SERVICE
ACCL-L	Aera control service for flights up to FL 250
ACC-SR-I	Aera radar control service up to FL 250
ACC-SR-U	Aera radar control service up to FL 450
ACC-U	Aera control service for flights up to FL 450
AD	Within Limits of aerodrome
AFIS	Aerodrome flight information services
APP-L	Approach control service for flights below FL 120
APP-I	Approach control service for flights below FL 250
APP-PAR	Precision approach radar service up to FL 40
APP-SR-I	Surveillance radar approach control service up to FL 250
APP-SR-L	Surveillance radar approach control service up to FL 120
APP-SR-LU	Surveillance radar approach control service up to FL 450
APP-U	Approach control service for flights up FL 450
ATIS	Automatic terminal information services
CD	Clearance delivery
CTA	Control area

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

DF	Direction finder
ER	Requirement to utilize extended range technique, RCAG or repeater stations
FIR	Flight information region
FIS-L	Flight information service for flights up to FL 250
FIS-U	Flight information service for flights between FL 250 and FL 450
GP	VHF en-route general purpose system
RCAG	Remote controlled air-ground communication
SMC	Surface movement control up to limits of aerodrome
TWR	Aerodrome control service
VOLMET	VOLMET broadcasts

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-H: International Call Sign Series for the Republic of Vanuatu

(RR - 2016 APPENDIX 42 (REV.WRC-15)

YJA-YJZ

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

Annex-I: Acronyms and Abbreviations

Item	Explanation
ASDE	Airport Surface Detection Equipment
AID	Automatic Identification
AM	Amplitude Modulation
AM(OR)S	Aeronautical Mobile (OR) Service
BC	Broadcasting Station, Sound
BSS	Broadcast - Satellite Service
BT	Broadcasting Station, Television
CB	Citizens' Band
CBRS	Citizens' Band Radio Service
COSPAS	Space System for Search of Distress Vessels (CosmicheskayaPoiskaAvariynykhSudor)
CTS	Cordless Telepoint Service
DME	Distance Measurement Equipment
DSC	Digital Selective Calling
EIRP	Effective Isotropic Radiated Power
ENG	Electronic News Gathering
EPIRB	Emergency Position Indicating Radio Beacons
EESS	Earth Exploration Satellite Service
FDD	Frequency Division Duplex
FDMA	Frequency Division Multiple Access
FM	Frequency Modulation
FSS	Fixed - Satellite Service
FWA	Fixed Wireless Access
GLONASS	GLObal Navigation Satellite System
GPS	Global Positioning System
HDFSS	High Density Fixed-Satellite Service
HDTV	High Definition TV
ICAO	International Civil Aviation Organization
GMDSS	Global Maritime Distress and Safety System

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

GSO	Geostationary Satellite Orbit
ILS	Instrument Landing System
IMT	International Mobile Telecommunication
ISM	Industrial Scientific and Medical
LEO	Low Earth Orbit
LORAN	Long range radio navigation (system)
LPD	Low Power Device
MDS	Multipoint Distribution System
MLS	Microwave Landing System
MMDS	Multi-Channel Multipoint Distribution Service
MS	Mobile Station
MSI	Maritime Safety Information
MSS	Mobile Satellite Service
NAVID	Navigational Identification
NAVTEX	Navigational Telex
NBDP	Narrow Band Direct Printing
NDB	Non-Directional radio Beacon
OBTS	Outside Broadcast Television Service
PMR	Private Mobile Radio
RACON	Radar Beacon
RTP-COM	Radio Telephony Communication
RTSS	Rural Telephone Subscriber Service
RTTT	Road Transport and Traffic Telematics
SAB	Service Ancillary to Broadcasting
SAP	Service Ancillary to Program making
SAR	Search and Rescue
SARSAT	Search and Rescue Satellite-Aided Tracking
SART	Search and Rescue Transponder
SFSC	Single Frequency Single Channel
SIT	Satellite Interactive Terminal
SNG	Satellite News Gathering
SOBL	Sound Outside Broadcast Link
SSB	Single Sideband

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu

SSR	Secondary Surveillance Radar
STL	Studio-to-Transmitter Link
TDD	Time Division Duplex
TDMA	Time Division Multiple Access
TFSC	Two Frequency Single Channel
TLMRS	Trunked Land Mobile Radiocommunication Service
TX	Transmitter
VOR	VHF Omni-Directional Range
WAS	Wireless Access System

+678 27621
enquiries@trbr.vu
PO Box 3547, Port Vila, Vanuatu
www.trbr.vu